

# CIMC TODAY

## 今日中集

中集车辆专刊

今日中集（中集车辆专刊） 总第222期 2018年8月出版

CIMC Today, Total Volumes-222, Published in August 2018

### 致力灯塔工厂建设 打造敏捷性的组织

新一代半挂车怎么造？  
灯塔工厂产品怎么卖？  
新一代半挂车怎么租？

2018年08月 总第222期

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# 今日中集

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August 2018 Total No. 222  
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06 新一代半挂车怎么造？

面对未来，中集车辆既是新一轮全球化的参与者、推动者，也是受惠者。当前，中集车辆正以“灯塔工厂”为引擎，向“世界品质”看齐。

12 灯塔工厂产品怎么卖？

中集车辆在国内各销售区域布局“半挂车 4S 销售加盟体验店”网络，尤其对经销网络进行了重点升级，推广顾问式的半挂车销售体验服务方式。

17 新一代半挂车怎么租？

得益于“共享经济”标签的火热，半挂车经营性租赁一经面世，即被冠以“共享挂车”的名头，吸引了行业关注。参与者纷纷入局，俨然开启了又一场共享经济大战。

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国内专用车领域，绝大多数是小批量生产，车型繁多，不经过梳理是很难适合自动化生产的。我们希望通过模块化设计，利用适度的自动化生产技术和数字化管理体系，来推进转型升级，来构建在行业的领先地位。

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《今日中集》，总第 222 期，2018 年 8 月出版  
CIMC Today, Total Volumes-222, Published in August 2018

**主办 | Sponsored By**  
中国国际海运集装箱（集团）股份有限公司  
China International Marine Containers (Group) Co., Ltd.

**翻译 | Translation Institution**  
中国国际出版集团有限公司  
China International Publishing (Group) Co., Ltd.

**发行 | Distribution**  
中国邮政集团广东省分公司  
China Post Group Guangdong branch  
商用汽车杂志社  
Commercial Vehicle Magazine Agency

**设计印刷 | Design and Printing**  
凸版快捷财经印刷有限公司  
Toppan Vintage Co., Ltd.

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**登记证号 | Registration No**  
粤内登字 B 第 10163 号（内部发行）  
Yue Nei Deng Zi B No.10163  
(Internally distributed)

内部资料 免费交流  
Internal Materials for Free Exchange

## 编者语

## 创新驱动，服务全球

2017年，中集车辆半挂车产销量第4次蝉联全球第一！

在不到16年的时间里，从一家默默无闻的中国小工厂到全球第一，中集车辆奇迹般崛起于中国，绽放出夺目的光彩，令业界振奋！究竟是什么造就了中集车辆？

2018年，中集车辆明确将全力打造“灯塔工厂”，向着光明的未来全力前进！面向未来，中集车辆该如何审时度势、抓住机遇，在超级全球化时代的竞争中形成新优势、实现新跨越？该如何发挥行业领导者的担当作用，引领“中国制造”深度转型升级，勇闯出新路？

身未动，心已远。怀着上述疑问，中集车辆集团与中集集团开展的“互联互通+转型升级”专题采编活动，走进中集车辆制造工厂，了解国内各地子公司取得的成功经验，探寻转型背后的推动力。

在扬州，我们探寻数字化教导车间的技术人才培养新路径；在驻马店，我们探访“灯塔工厂”指挥作战室，对话调试世界领先设备的全国劳动模范；在青岛，我们走进中国冷藏车生产基地，探究精密制造背后的“工匠精神”；在镇江，我们考察“挂车帮”租赁总部，尝试解开“双创”的密码；在上海，我们问策业界大咖与行业协会负责人；在广州，我们对话销售中心店

负责人，探究市场营销之道；在东莞，我们近距离观察工人生产，感受世界领先技术……。

一路上，我们始终感受到一种勇猛精进的力量，这是一种为了梦想而打拼的力量，是一种敢为人先、寻求突破的力量。

采编小组在15天里，横跨7座城市，行程上万公里，带回超过20多万字采访调研资料，三易其稿整理成文，在此呈现给广大读者。我们希望这期专刊能够给更多人打开一扇了解“中国制造”的窗口，希望为中集车辆的转型升级摇旗呐喊、振奋精神！

# 探寻更大合作机会 实现业务有质增长



中集集团 CEO 兼总裁、中集车辆董事长  
麦伯良

中集车辆的销售业务做得很大，2017年的营收也非常令人满意；而且，我坚信今后一定会一年更比一年好。我们从2002年走到现在，从不懂行，变成行业专家，而且已经引领全球半挂车产业发展，建立了令人信赖的品牌形象，可以说是这个领域的“航灯”了。

中集车辆取得今天这样的成绩，我们要总结经验、乘势而上。我认为其中有4个关键点：一是创立于深圳，而深圳是中国创新开放的前沿，见证了中国改革开放40年来所取得的巨大成

就。二是中国越来越富强，过去一直都是欧美国家的工业产品占据市场主导地位，而我们后来居上。在过去的15年里，中国半挂车行业飞速发展，反映了我国经济与民族地位的突飞猛进，我们的半挂车行业只是其中一个小小的缩影。三是坚持“全球营运”至关重要，全球化已是趋势。四是人才因素，我相信“世上无难事，只怕有心人”。你用心去做，大家觉得你合适就会支持你，你也有很强烈的意愿去干，这个事就能干成。

目前，中集车辆是世界半挂车行业唯

一家实现“全球运营”的企业。今后，中集要继续引领这个行业，只有坚持不断创新。你可以跟别人学，但要完全复制别人的东西已经不可能了，别人的东西只能作为启示和借鉴。未来的道路，还是需要我们自己去趟。我希望，2018年中集车辆，要对标全球前10强企业，多向欧美竞争对手学习并加强交流，探寻更大的合作机会，从而实现业务有质增长和企业的可持续发展。

——摘自2018中集车辆新一届董事会会议上的讲话



# 致力灯塔工厂建设 打造敏捷性的组织

中集车辆 CEO 兼总裁  
李贵平

各位朋友：  
您们好！

2017 年全球经济持续增长，国际贸易和工业生产恢复增长，增幅达 3.8%。中国经济的增幅更是达到了令人振奋的 6.8%。2017 年中集车辆也在发力狂奔，实现销售收入 195.21 亿元人民币，实现净利润 10.18 亿元人民币。

2017 年，中集车辆不仅取得了丰硕的经营成果，而且强力推进了转型升级。我们完成了中集车辆集团层面的股权重组，并借此机会进一步完善了顶层的治理架构；同时，下属各企业基本做实了董事会，提升了决策能力和决策速度。

在转型升级方面，中集车辆更是热点纷呈。2017 年，我们启动了“驻马店·

灯塔工厂”、“扬州·灯塔工厂”的建设。

2017 年，中集车辆生产的各类半挂车超过 16.3 万辆，产销量继续名列世界第一。骨架车和液罐车等品类继续保持全球领先地位。

2018 年，全球经济继续保持增长势头，但地缘政治带来局势不稳、事态频频，因此全球市场将继续保持碎片化的格局。对此，中集车辆应继续贯彻“全球运营·地方智慧”的经营理念，进一步推动技术进步和转型升级，致力于各类“灯塔工厂”的建设，打造“敏捷性组织”。另外，在经营上，要进一步推动“权力下放”，鼓

励每一个企业自由追逐企业的成长，追逐利润的增长；鼓励每一个企业与员工分享公司的成功，为员工提供更好的培训和创造多元的学习机会。

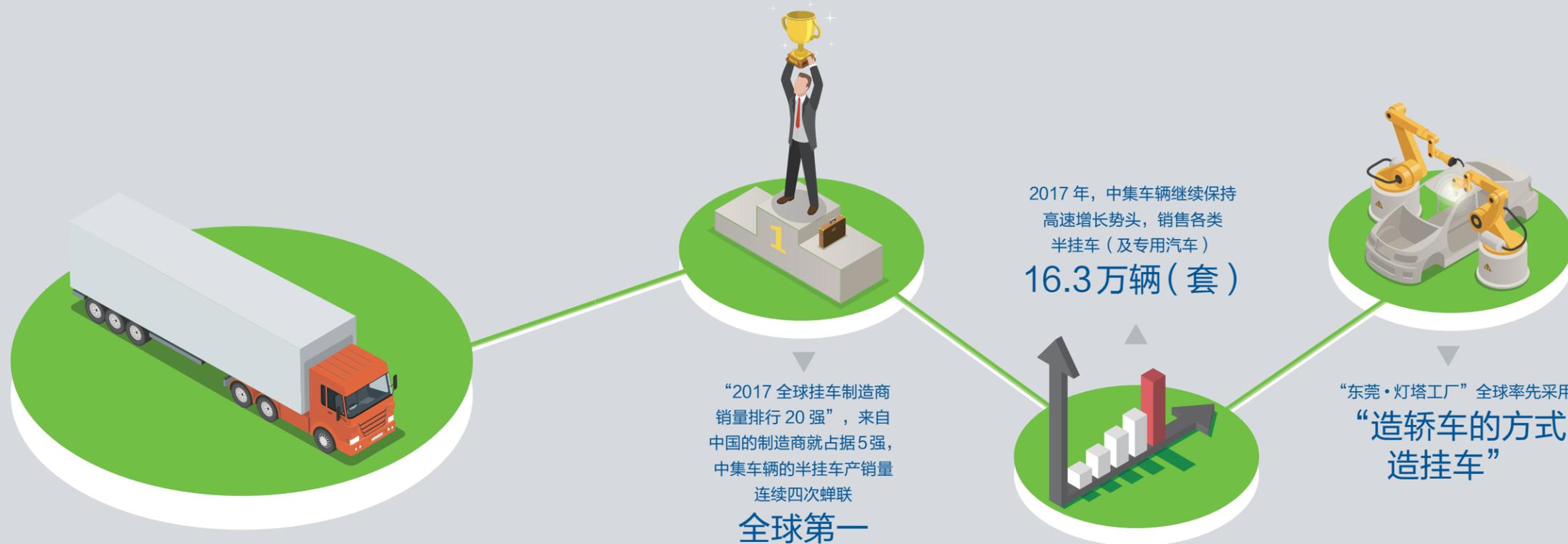
据统计，全球出口已占到全球 GDP 的 30%。所有地球人正逐步、坚定地迈入超级全球化时代。中集车辆奉行“全球运营”路线，我们可以通过掌控“互联互通”来进一步提升竞争优势。

借此机会，我呼吁大家携起手来，通过“互联互通”来丰富每个企业的产品和服务，通过“互联互通”来推动中集车辆的可持续发展。自此，再次感谢每一位为中集车辆发展做出贡献的同事和朋友！



# 新一代半挂车 怎么造？

□ 甘应鑫



当今世界，新工业革命风云巨变，全球制造业格局正处在重大变革之中。“智”造产品正成为中国制造行业的新风口。

中国是半挂车（及专用汽车）产销大国，尤其2017年，半挂车卖到“疯狂”地步，使得“中国装备”再次受到全球关注。

据全球挂车领域权威杂志《Global Trailer》发布的“2017全球挂车制造商销量排行20强”，来自中国的制造商占据5强，其中，中集车辆的半挂车产销量连续4次蝉联全球第一。

2017年，中集车辆继续保持高速增长势头，销售各类半挂车（及专用汽车）16.3万辆（套），同比增长32.41%；实现销售收入195.21亿元人民币，同比增长32.84%；实现净利润10.18亿元人民币，同比增长32.78%，收入和净利润的增长主要得益于在中国市场的良好业绩，欧洲和

北美市场收入好于预期以及新兴市场局部地区市场回暖等因素。

## 变革与治理带来了竞争优势

业内人士认为，中国是制造大国，中国的制造商更加了解客户需求，更能为客户提供产品全生命周期的绿色服务。

中国获得这种竞争优势的背后，往往是新旧动能的转换，是产品形态和生产方式的变革。

早在2014年前，作为全球领先的道路运输车辆制造商、中国半挂车及专用车制造行业领导者和“中国制造2025”计划的先行者，中集车辆就已大力推进以数字化为核心的转型升级，并启动“东莞·灯塔工厂”项目，为“中国制造”探寻“从量变到质量”的智能升级之路。

特别是从2016年起，随着中国“治污、治超、治限”法规的相继落地与实施，新政策触动了整个半挂车及专用车制造业的神经。由此，一场席卷全国的质量体系治理，正倒逼产业转型升级。

在这场变革中，半挂车及专用车制造企业中，有的“浴火重生”，有的“命悬一线，危在旦夕”。其中，守法合规的企业日益成为市场主力军；同时，客户需求越发呈现出智能化和个性化趋势。

## 用造轿车的方式造挂车

那么，如何打造优质产品，实现“弯道超车”？中集车辆的核心工厂都采取了哪些行动？

制造业的生命在于质量，质量基于生产，生产成于技艺；技艺是硬基础，管理是软支撑。

好的产品源于好的顶层设计与动态评估。中集车辆CEO兼总裁李贵平指出，我们应继续贯彻“全球运营·地方智慧”的经营理念，进一步推动技术进步和转型升级，致力于各类“灯塔工厂”的建设，打造“敏捷性组织”。

2018年3月20日，在上海举行“2018集装箱多式联运亚洲展”上，中集车辆推出了首款利用KTL工艺生产的40尺3轴智能海运骨架半挂车，与会的嘉宾和客户纷纷感慨，它已不再是传统意义上的半挂车。

“东莞·灯塔工厂”除了在全球率先“用造轿车的方式造挂车”，使用激光下料、自动焊接、环保涂装等新技术，还加入了最新的智能挂车系统，实现了从传统向智能升级，使产品在全球同类竞品中，实现了品质领先和最低成本运营。

2018年3月28日，中集车辆推出了中置轴轿运车系列化新品。该系列新

品充分融合了行业最前沿的智能化新技术，加上良好的一站式服务解决方案，已得到了国内许多用户认可。“随着KTL电泳+喷粉环保涂装的使用，我们可以做到让轿运车永远告别‘流锈水’的年代。”深圳中集专用车联合体坪山工厂总经理申建文表示，这一切，源于信息化技术创新和核心技术攻关而获得的力量和优势。

早在1992年，扬州中集通华专用车有限公司（简称：中集通华）就拥有了中国第一条半挂车生产流水线，赢得了行业龙头地位；随即在1995年，该公司研发出了中国第一辆轿运车，该产品拥有100多项设计专利。该公司每年科研经费均占到营业收入的4%左右。如今，“我们原有产线的优势已一去不复返了，所以我们必须转型升级。”中集通华联合企业总裁刘洪庆表示，我们正以高度的热情投入到“数字化教导车间”建设，以期打造一座领先的“扬州·灯塔工厂”。

工业化与信息化的加速融合，正推动中集通华开启一场效率跃迁的全新变革。

“我们一直重视制造革新和产品迭代，我们目前最强的还是涂装，因为涂装是一个颠覆性的革命，KTL 电泳 + 喷粉，不仅让我们的产品外观变得漂亮，还能让我们的产品防腐能力达到 5 ~ 7 年，这在国内商用车领域都解决不了的问题，由我们从根本上解决了。目前，商用车行业只做到 KTL 电泳，还没喷粉。还有，就是我们的生产制造工艺达到 100% 零排放，合法合规，这是我们的生命线。”中集通华副总经理夏爱军说。

随着新的技术、新的系统嵌入“灯塔工厂”，这里的车间正释放出全新的生命力。

不只是中集通华，走进其他兄弟企业，同样可以强烈感受到一种对品质的卓越追求。有观察人士分析认为，中集车辆以技术进步推动企业转型升级，

为全球半挂车营运的可持续发展奠定了扎实基础。这也是中集车辆能在短短 16 年内，从地方小企业迅速成长为全球第一的关键所在。

### 加强“组织重塑”，实现“智能制造”

“产线升级不只是换机器，而且要加强组织重塑。市场上，没有永远领先的产品，只有不断努力超越自我的团队，我们的研发团队超过 100 人，只要你通过面试进入数字化教导团队，岗位工资都会上浮 30%。针对数字化教导车间，我们对重要岗位人员进行培训和公开招聘，让更多有能力、有意愿的人，在这个平台有更好的发展。我们会给出各种激励政策，激发企业活力，让员工感觉到实惠、感觉到希望。”刘洪庆说。

“从研发、生产，到检测、交付，各个环节都能让你感受到有一股较真劲，其实我们今天的努力，也是在引领整

个行业未来的发展。”青岛中集专用车有限公司总经理翟敬雄回忆说，自 1994 年加入中集起，即亲历和见证了中集在核心技术领域的卓越追求。就在 1994 年，中集集团和宝钢集团开启了业务合作，2009 年 1 月中集集团与宝钢集团（2016 年重组更名：中国宝武钢铁集团有限公司）签署了战略合作协议，2012 年 12 月宝钢集团与中集车辆成立“车辆用钢联合实验室”，2014 年 2 月武钢集团（2016 年重组更名：中国宝武钢铁集团有限公司）与中集车辆成立“高性能结构钢联合实验室”，开展高强度、轻量化的专用车材料研究，通过实验室完成各项测试，促进产品与制造的技术升级。2017 年，中集车辆超高强度热处理材料 B980LE 总用量超过 1000 t，通过战略合作实现技术创新，引领专用车行业用材的升级换代。

我们进步越快，对手尾随越紧。其实，国内专用车行业诸侯逐鹿，厮杀正猛。

驻马店中集华骏车辆有限公司（简称：中集华骏）的产品、技术、营销之道，一直是国内同行业竞相模仿的对象。

“坦白地说，这几年竞争对手跟进的速度非常快。”中集华骏总经理郭喜洲表示，“时代在进步，技术在发展，我们要做到既要通过专利和法律武器保护自己的技术成果，让竞争对手不能也不敢去抄袭；同时，也要不断变革，对组织进行自我重塑，搭建更高、更好的平台，用心做好产品和服务，与竞品拉开差距，让竞争者无法抄袭或短期内难以跟上我们。”

“从全局出发，需要跳出盒子，重新定义价值观，构建敏捷型组织，形成团队协作的合力。”郭喜洲认为，流程再造、人才育成和知识产权保护，是创造高效企业竞争力的关键。

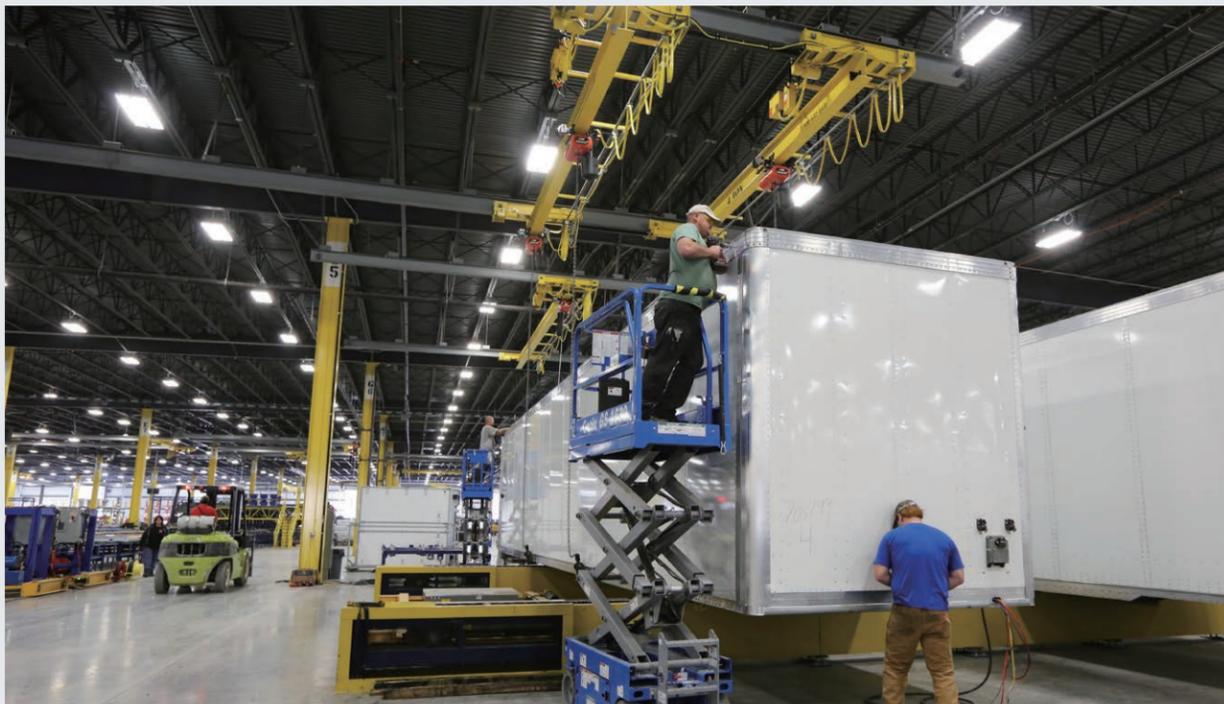
2018 年 6 月，中集华骏“灯塔工厂”项目的新生产线全线贯通。该项目副

指挥长朱雷鸣表示，项目正式生产后，客户关注的交货期将比以前缩短很多。过去，我们的传统生产线生产出一辆骨架车，传统生产线基本需要 6 天左右；现在，新生产线仅需 22 h。他认为，“灯塔工厂”将改变传统的专用车生产模式，逐步走向模块化、信息化、自动化智能制造，提升生产体系的效率和效益，进一步提高专用车（挂

车）产品质量，以质量求差异、以差异赢市场，让中集华骏的挂车技术持续保持领先地位。

专用车制造属于多品种、小批量的生产模式，客户定制化、智能化和一体化的采购需求，对整个行业来说是希望大于挑战，这也是“供给侧改革”给专用车行业带来的希望所在。





改革是各种力量互动的结果。中集车辆多位核心制造工厂负责人认为，对处于“供给侧改革”浪潮中的专用车行业而言，就是改善产品和服务供给，促进产业转型升级。

“供给侧改革，具体到我们企业就是个性化定制、柔性化生产、场景化应用。”东莞中集专用车有限公司总经理高承文说，无论是降低人力成本，还是提升生产效率，出路在于智能制造。他认为，智能半挂车业务在国内尚属于起步阶段，目前我们要抓住这个起步阶段，快速成长，谋取先发优势。

### “中国制造”创造世界品质

如何提高制造精度？继而迈入强者之列，把产品做成世界第一？

在中集车辆系统，还有一家“很不一样”的冷藏半挂车制造工厂，这家工厂用10年的努力，把产品做成了中国冷藏车产量第一。外国客户看了之后一般都说“这是欧洲设计制造的”，

而实际上是标准的“中国制造”——来自青岛中集冷藏运输设备有限公司（下简称：青岛中集冷车）。“局部冷链市场一定要做出顶尖的，数一数二的产品。”这句话是一种信念，也是该公司总经理王晓毅实现了的目标。

过去，青岛中集冷车专注海外市场，2013年开始转向中国市场，时任该公司董事长的李贵平，特别为公司发力中国冷藏车市场申请了“青锋冷”商标，意在打造高端、绿色、领先的产品。

2016年实现国内所有冷藏厢式汽车和厢式挂车全系列覆盖。通过“走了一条和别人都不太一样的路”，不断的技术转型升级，即：“欧美冷车模块化设计+中国精密制造的大部件+海外快捷CKD组装”模式，将海外生产的产品变为“Made in 当地国”；产品和制造技术不断的转型升级，让世界看到了中国制造的最新实力。目前，该公司既拥有美国冷藏车技术，又拥有欧洲冷藏车技术，在中国甚至亚洲地区始终保持技术最先进、产量最大、产品水平最高、制造装备最好的领跑地位。

中国工业物料齐全，配套能力比较强悍，人力资源较为丰富，制造装备水平也很高。“我们可以很好地满足客户的定制化要求。”王晓毅说，“欧美领先的冷藏车主流核心技术都在我们掌握之中，西方国家在研发下一代产品怎么造，我们也在研发下一代产品怎么造，也即大家都想有亮点。”

这座工厂正在研制的新一代冷藏半挂车G2.0，可以用超乎想象来形容：第一，车变得更轻，用碳纤维复合材料部件替代钢材料部件，整车重量下降350 kg；第二，车变得更环保，保温性提升10%；第三，车跑得更快，其风阻系数降低15%；第四，车身内高和容积增大，使叉车的装卸操作撞坏概率下降90%。

“我们在技术创新上，申请了60多项专利，冷藏半挂车G2.0还有很多专利在申请中。接下来，我们还要进行工厂的智能化改造升级，目前已经完成美国2条、巴林1条、南非1条，共4条海外冷藏车组装线，为客户寻求更合适的模块化产品，用中集海运

的集装箱，把冷藏车产品运输到全球CKD装配点和合作伙伴的装车点，开拓海外市场。”王晓毅透露，在国内，也会按照模块化设计和制造的路子，在北京、广州、四川和其他地区找到合作伙伴，建立冷藏车CKD组装业务。

“面对全球化挑战，未来谁能整合好资源，实现互联互通，谁就能赢得未来。”王晓毅信心十足地说，我们希望中集车辆的冷藏车板块能够做成一个联合体，以增加市场份额，最终整合全球资源，锻造中集冷藏车品牌，形成以质量品牌为标识的竞争新优势，找到一条与欧美大品牌一争高下的路径。

放眼全球，中集车辆仍需要持续提高制造质量。“美国的信息技术，日本的精益生产，德国的工匠传统等，都是我们最需要补的课；我们要实现《中国制造2025中集行动计划》，还有很长的路要走。”深圳专用车联合体总裁蒋启文表示，我们把握制造业转型方向，坚持探索，就能通过制造模式升级提升生产效率，实现“弯道超车”，快速满足客户需求。

面对未来，中集车辆既是新一轮全球化的参与者、推动者，也是受惠者。当前，中集车辆正以“灯塔工厂”为引擎，向“世界品质”看齐。依靠这样的平台和共识，中集车辆在世界制造格局中实现了后发超越，在新一轮的工业浪潮中创造出了全球冠军产品，在全球半挂车行业的变革中贡献出了中国智慧与中国方案。



# 灯塔工厂产品 怎么卖？

□ 甘应鑫 周毅敏 张路丁

国内的半挂车大多通过自己的经销渠道来售卖，但受客观条件的限制，客户很难获得满意的购车与用车体验；那么代表未来趋势的“灯塔工厂产品”又该如何推向市场和赢得客户呢？有没有营销之道？有！中集车辆销售团队提出了“以卖轿车的方式卖半挂车”的体验式营销理念，并进行了大胆的创新与探索。



### 推行体验式营销和专业营销

中集车辆在国内各销售区域布局“半挂车 4S 销售加盟体验店”网络，尤其对经销网络进行了重点升级，推广顾问式的半挂车销售体验服务方式。

在环境洁净、设计考究的销售体验店里，客户不仅可以看到热销车型的展示，而且在咨询、选购产品时，也可以享受与轿车 4S 店一样的温馨接待、试车体验、采购方案等相关配套服务。同时，借助中集集团旗下金融租赁公司与“挂车帮”的资源，可在购车金融支持方案以及半挂车租赁等方面，为客户提供更多优质、舒适、周到的购车“顾问式+体验式”服务，将为销售起到很好的推动作用。

据了解，2018 年中集车辆拟在上海、广州建立 2 家“中集半挂车 4S 销售体验示范店”；预计到 2028 年，在试点成功的基础上，将分批在国内主销区域，通过对现有经销商择优加盟的方式，渐次完成 100 家“中集半挂车 4S 销售加盟体验店”的网络布局。

以往的特种车销售，经常让常规车销售人员兼营。由于不够专业和专注，销售成效往往不佳。用专业、统一的营销模式，有利于最大限度地发挥现有资源的集合优势，对症下药，逐步消除管理不畅、资源利用不足的痛点。正如中集车辆东南销售中心总经理孙春安所言，“我专故我强”，“未来特种车的销售模式一定是朝着专业、统一的方向发展，这也是中集车辆营销体系改革的一个重要方面”。

中集车辆根据对市场的预测，针对国内中置轴轿运车市场可能爆发的机遇，在多次组织技术性交流和 PK 的基础上，以集团资源协同共享、集团利益最大化为导向，于 2018 年初，将 3 家核心工厂的中置轴轿运车产品技术



图纸进行了统一模块化设计，并面向国内市场组建专门的营销战队，以统一品牌、统一车型的统一销售模式，使该车型的销售业绩取得了可喜战果。同时，通过专业、统一的营销活动，也有效地巩固了中集车辆的品牌优势。2018 年，国内销售中心又相继成立了罐车销售专业团队，打造差异化卖点，立志向行业领导地位进发。

### 启动“挂车管家”，助力市场拓展

2018 年 4 月 28 日，中集车辆的“挂车管家 O2O 项目”在广州正式启动。该项目拟通过建立 B2C 业务模式的网上商城，营造线上线下互联互通的营销生态圈，不断强化中集车辆与终端用户的粘度。

中集车辆搭建互联网营销管理平台，贯通散点资源间的联系，通过交易数据的收集与积累，借助互联网、云计算、人工智能等新营销手段，使大数据的收集与应用实现质的飞跃，努力形成产品营销新生态。通过专业化、

市场化的产品研发和顾问+体验式的营销方式，努力实现技术与营销微笑曲线的有效合拢。

中集车辆东南销售中心总经理孙春安表示，“以中集良好品牌影响力构建而成的‘挂车管家’营销服务网络，是中集车辆今后服务客户的一个重要举措。一旦成功，将为新时期的产品销售和售后服务，以及‘挂车帮’的经营性租赁提供坚实的保障，中集车辆将成为业内营销服务水平最强大的企业。”

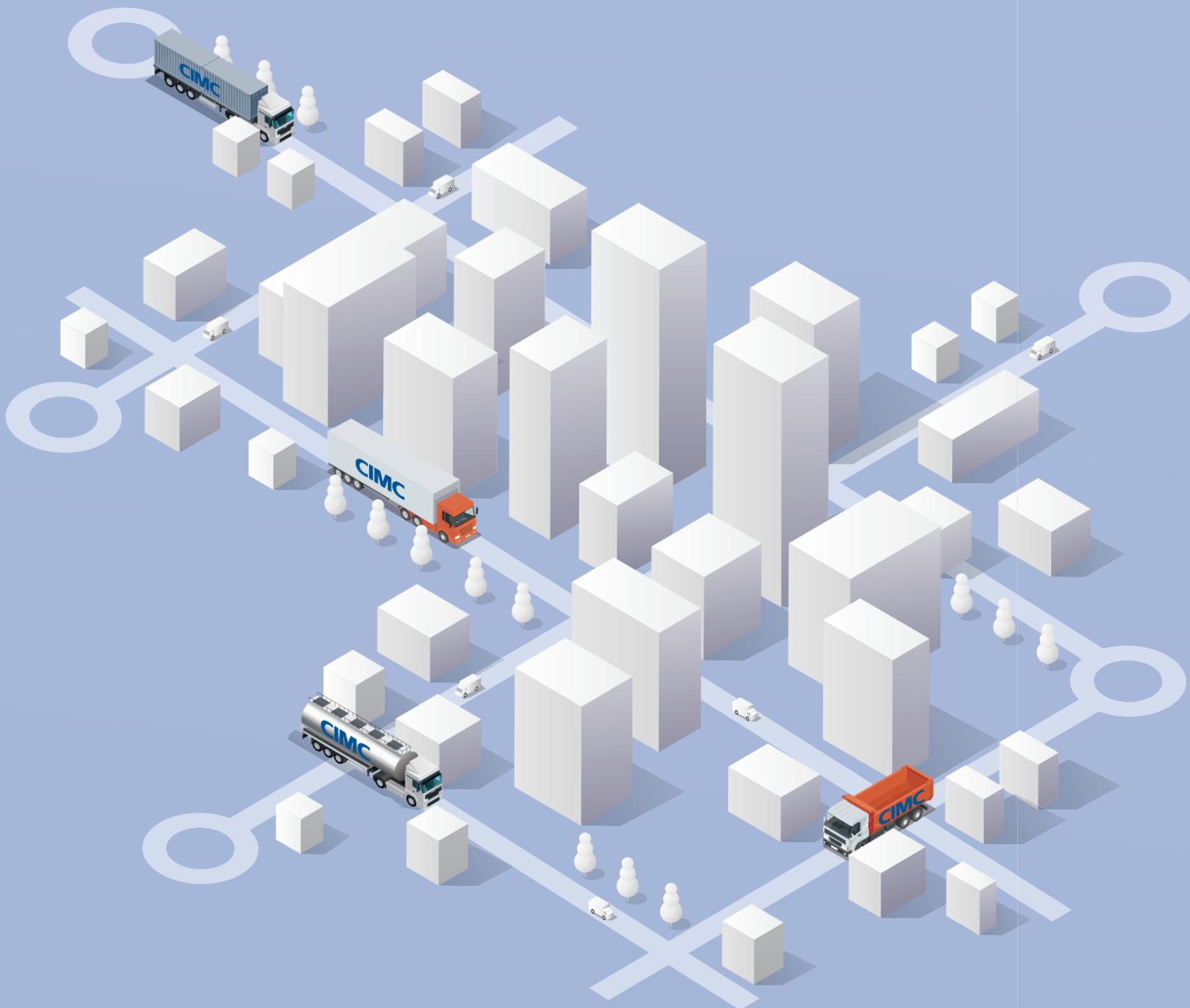
目前，线下项目布局正在有序推进。中集车辆将通过对国内现有服务配件站的严格筛选，评出 300 家优秀的服务配件站，并逐步对其授权。授权后的服务配件站，其服务范围将从过去只服务于一家工厂的产品，逐渐扩展到服务中集车辆的所有产品，并对“挂车帮”的经营性租赁提供全方位服务。

正如中集车辆中西部销售中心总经理闫朝元所说，“目前，中集车辆已在国内各省份逐步建立和完善了服务配件网络，希望无论是在偏僻的县城，

还是在人口稠密的大中城市，都能让客户方便地找到中集车辆的服务配件网点。而每个网点都配备有专业的维修人员和充足的零配件储备。客户如遇到维修问题，便可根据服务网络的导航指引，在第一时间内就近选择网点并享受到便利的维修服务”。线上项目拟 2018 年 8 月上线试运行。

在数字化经济新时代，中集车辆以“灯塔工厂”缔造高品质的“灯塔半挂车产品”和高效的“灯塔速度”；用“挂车管家”将半挂车 4S 销售体验店模式、布局均衡的服务配件站与互联网移动营销服务网络平台紧密结合，必将进一步提升核心竞争力，并极有可能在一个较短的时间内成功实现从“销售规模全球第一”到“销售服务引领全球”的升级任务。





## 新一代半挂车怎么租？

□ 甘应鑫 周毅敏 刘 伟

过去，中国公路物流企业用车需求紧缺时，有 2 种解决途径：一是购置新车或二手车，二是在同行之间调车应急。

前者，物流企业需要把选车、选配置、下单、生产、交车、办证、上牌等“一箩筐”事情办理下来，时效性已经不强，而且，车越多管车的门槛要求也越高；后者，往往“同行是冤家”，你的旺季也是他的旺季，不仅调车困难，而且调车上路也存在安全风险。

反观淡季，往往有的部分线路车辆闲置，运营费却居高不下……这些问题，始终困扰着许多物流运输企业，直至半挂车租赁业务的出现。



### 超级供应链：为客户提供更合适的产品和服务

半挂车租赁，主张把物流运输装备看成一种非必须拥有的生产工具。通过租赁设备及服务的方式，物流企业不仅可以将有有限的资金更多地投入业务发展中，实现企业快速扩张，也极大地降低了资产管理成本及资产贬值或闲置的风险问题。

得益于“共享经济”标签的火热，半挂车经营性租赁一经面世，即被冠以“共享挂车”的名头，吸引了行业关

注。参与者纷纷入局，俨然开启了又一场共享经济大战。江苏挂车帮租赁有限公司（下简称：挂车帮）敏锐地捕捉到这一市场趋势，适时进军半挂车租赁市场。

挂车帮首席运营官何显松认为，若提及半挂车资源储备，目前租赁市场可以用“杂”和“缺”2个字来形容，而挂车帮则可以做到“精”和“全”。中集车辆产品的可靠性、安全性等方面已为中外市场认可，可供市场使用的车型也是行业最全的。而且，通过对行业政策、企业生产工艺及产能、

用户反馈等信息的调研，对租赁车型配置进行了专业化定制，为目标客户提供了更合适的产品和服务。

其实，无论租赁还是购买挂车，影响客户使用体验的决定性因素，一定是产品本身。没有过硬的产品力背书，任何模式都将失去赖以生存的土壤，为市场所抛弃；而针对同行面对的现车储备问题，挂车帮在这方面的优势可谓得天独厚。

例如，挂车帮联合中集车辆核心工厂，通过动态化的库存管理，在合理的现车库存基础上，让3大工厂给予最优优先级的产能保障，将客户提车效率做到行业更优。

随着中集车辆3个“灯塔工厂”项目的全面启用，堪称“匠心之作”的灯塔工厂产品也将陆续通过挂车帮首次投放国内市场，服务客户。

据分析，“融资性租赁”模式在国内半挂车行业已有10年的发展时间，而“经营性租赁”模式在国内却刚刚起步，其市场需求与发展前景被普遍看好。

### 智能挂车管理系统：向数据要效益

既然被冠以“共享挂车”之名，移动互联网技术自然也是标配。

“挂车帮”借助智能挂车管理系统（挂车智能信息管理平台，又称“星火车联网”系统），通过车身传感器获取车辆运行数据，可实现对挂车实时状态、行驶速度、轨迹追踪、胎压胎压监测等一系列车辆运营信息的在线管理，进一步确保了租赁资产的安全，同时也为客户运营提供了大数据支持。

客户可通过系统账号登录后台，随时了解租赁车辆的运营情况，根据系统定期生成的智能报表，及时查漏补缺，成为帮助他们降低成本、提升效率和安全运营的重要工具。

大数据与智能化技术的结合，无疑让挂车帮开拓业务“如虎添翼”。何显松说，从立足客户的角度，借助大数据平台，可以挖掘出隐藏在数据背后的信息价值，从而为企业提供有益的帮助，这是挂车帮致力于为客户创造新价值的重要体现。

租赁半挂车只是为物流资产配置提供了一种新选项而已；相比于购置半挂车，其资产管理方式更加灵活，对于部分车队，可能更经济实用。

目前，市面上推出了半挂车租赁的“干租”与“湿租”2种模式，两者的区别在于是仅仅租赁车辆还是租赁车辆+配套服务。对大车队而言，因其车辆数量庞大，大多会配备专职的车管人员及机构，摊薄了车辆管理成本。这样的企业会首选“干租”。然而，中小车队，由于车辆数量较小，单独搭建团队管车、养车并不划算，通过“湿租”模式，可以将选车、选配置、下单、生产、交车、办证、上牌、保险、售后、

尽管当前多数租赁企业都能提供“湿租”，但要做到“人有我优”，并非简单的事情。

维修等一系列工作交由租赁公司代为处理，车队只是使用车辆，可以更好地聚焦业务本身，控制好人员规模。

为此，“挂车帮”推出了一站式服务，即依托中集车辆售后服务体系以及BPW、JOST、双钱等重要零部件供应商的售后服务网络，可以在全国范围为客户提供更优质的车管服务。客户只需按月支付租金即可获得车辆的使用权，省去了办证、上牌、保险、检测、维修、保养、年审等繁琐的程序。

作为从半挂车产业中衍生出来的新业务，不到一年时间，“挂车帮”已分别在快运、冷链、港口行业成功揽获众多订单；截至目前已交付车辆800辆左右，其中，中小客户占比超过80%。

与发达国家相比，中国公路物流行业尚处于初级发展阶段，行业政策根据社会发展会不断进行调整；激烈的市场竞争孕育了许多新的参与主体和运营模式，然而，持续的进化又是中国物流行业现阶段的常态。

何显松说，“挂车帮”进军半挂车经营性租赁领域，是适逢其时，也是具备了许多同行难以企及的绝对实力。他相信，挂车帮也有望成为行业的领头羊，让更多品质优良、性能可靠的中集半挂车产品，成为客户提升物流运营效率的首选。

我们也相信，以半挂车租赁为主导的物流装备租赁业务，必将成为公路货运行业发展倚重的方式之一。





业界瞩目的“2017 中国国际商用车展览会”于2017年11月4—7日在武汉举行，时任中集车辆（集团）有限公司董事总经理的李贵平，应邀出席“2017 物流与运输车辆高峰论坛”及“2017 专用汽车产业发展国际论坛”，与行业精英共同探讨“制造业与物流业联动发展”新趋势，如何抢抓转型发展的新机遇。他在2017年11月4日的媒体见面会上，回答了8家媒体记者提问。无论谈及行业政策、企业转型，还是共享经济等方面，他都能把中集职业经理人的风采从容展现。他的对话睿智而幽默，能很快拉近与人的心理距离，给人以启发。下面根据媒体见面会100多min的对话实录，整理出一份具有现场感、亲切感和时代感的采访对话，以飨读者。

### 开启中集车辆制造新时代

**《商用汽车》杂志：**中集车辆推行的“灯塔工厂”这一创新举措，如果全面推行，会给中集车辆和国内半挂车行业带来怎样的影响？

**李贵平：**中集车辆旗下的东莞灯塔工厂是首家推行自动化生产的专用车企业。国内专用车领域，绝大多数是小批量生产，车型繁多，不经过梳理是很难适合自动化生产的。我们希望通过模块化设计，利用适度的自动化生产技术和数字化管理体系，来推进转型升级，来构建在

行业的领先地位。

我们从东莞的灯塔工厂到扬州的麦哲伦项目，再到驻马店华骏灯塔项目，均表明中集车辆的创新是不断升级的。

转型升级，是企业生存发展的必由之路，专用车制造也一定要进入新的时代。我预计未来5年内，中国专用车行业会有20~30家公司成为核心战队；然而，从我们的实践对行业的启示来看，我认为有3点：一是，传统制造业是可以转型升级成功的；二是，创新项目可复制性得到了进一步验证；三是，转型升级必先组织上做好革

新准备，在文化上要减少传统因素的束缚，在人才育成方面要狠下功夫。如果没做扎实，就贸然投入，很有可能花了大笔钱，买到一个失败的教训。

**“中国卡车网”：**针对国家轿运车治理，中集车辆采取了哪些措施？

**李贵平：**我们响应国家对非标轿运车治理的号召，设立了中集车辆轿运车行动领导小组；通过引用欧洲先进的中置轴轿运车技术，结合国内运输环境加以改进，推进中置轴轿运车的生产。而且，我们将中置轴轿运车纳入数字化生产的首选车型，在集团内统一技术标准和进行模块化生产。目前

集团已经批准内部3家轿运车生产基地，达到年产10000组（辆）以上，预计占到国内市场35%的份额。

### 在半挂车领域推行“共享经济”

**“方得网”：**中集车辆作为全球半挂车行业领头羊，现已进入共享领域，您对此有何期待？如何看待这个趋势？

**李贵平：**我们对共享经济的体验，主要是源于“共享单车”的推广；而在半挂车领域的共享经济，我们叫租赁，标准说法叫“半挂车经营性租赁”。

国内的半挂车租赁方式通常有2种：一是“融资性租赁”，在中国已发展10多年了，类似银行“车贷”，首付与月供较高，到期后车辆要转交用户；二是“经营性租赁”，在中国尚处于起步阶段，即不用付高额的首付款，只支付少量押金，月租也便宜。客户只管使用车，租赁期满后，车仍归租赁公司。

“经营性租赁”模式在中国仅有2家企业刚刚投入运营，但在欧美已经流行20多年。这个模式，服务的主要对象是中小型车队，或个体运输户。中国拥有200万辆半挂车的保有量，目前用于经营性租赁和共享租赁的半挂



车还不足 5000 辆。通过分析预估，未来通过经营性租赁给客户使用的挂车约有 20 万辆，业务发展潜力巨大。所以我们成立“挂车帮”，努力实现从单一的制造到“制造 + 服务 + 金融”的价值链延伸。目前我们“挂车帮”的操作模式是：用户支付月租金，资产所有权归中集。“挂车帮”目前可以出租 30 ~ 48 英尺各型号的骨架半挂车，可连租载货箱体。租赁年限为 3 年起，全部提供崭新产品，服务对象不局限于主流大客户，中小企业和车队也是重点关注对象。此业务刚起步，拜求各位媒体朋友多帮宣传。

### 推出智能挂车系统，提升综合经济效益

《专用汽车》杂志：中集车辆的产品在智能化方面有哪些新进展？

李贵平：在商用车领域，很多传感器、数据传输已成为标配，但在半挂车（专用车）上很少见。实际上，我们的半挂车已经有一些智能化的零部件，比如 ABS、EBS 等，这些东西本身就包含了一些传感器，但这些传感器上的数据没有办法发射出去。于是，我们尝试拓展新业务——共享半挂车，坚持发挥自己的强项，推出了一套自己的智能挂车系统，也是目前国内领先的系统。这套系统使用智能终端，能获取半挂车的多维度状态数据，通过无缝对接的智能数据传输通道，将所有数据上传至智能数据云平台，再经过大数据处理分析，帮助管理者优化管理。其实，我们的最终目标是帮助客户实现挂车和货物的可视化管理，实现运营成本最低，运营效率最优，同时使运营过程最安全，最终达到提升综合经济效益，促进智能交通发展。

### 2017年，集团业务高速增长

“运输人”网：2017 年中集车辆在市场上表现如何？

李贵平：古人讲：“好雨知时节”“润物细无声”。在我看来，2017 年中国经济发展强劲，国内专用车行业发展出现了转折性的向好。2017 年有 2 大政策性利好：一是，国务院发布《关于进一步推进物流降本增效促进实体经济发展的意见》，我们的物流业和专用车制造业将成为最大受益者之一；二是，党的十九大召开，给我们的行业吹来了暖风，更让我们从经济高速增长中获益良多。2017 年，我们在中国的业务贡献量，超过全球运营的 50%，这是一个喜人的信号。2017 年国家加强了对制造业排放的控

制措施，会使整个行业里的很多装备及技术落后的企业停产，使得更多订单向大厂集中；加上中集车辆拥有领先的设备和技术，我们会给国内外客户，带来更新和更好的产品，所以，从整体来看，我们的业务是持续高速增长，营收也是同比增长的。

### 改善工作环境，增强吸引力

“中国网”：国家环保督察风暴来势汹汹，对中集车辆会有哪些压力？

李贵平：人间正道是沧桑。环保要从“我”做起。我们是一家致力于创建资源节约型、环境友好型社会的企业。我们生产车辆，也注重绿色经营。专用车行业的“三废”问题是不可避免的，我们不抱侥幸心理，我们也一直在加大环保投入，而且一直在持续改善。我们的东莞灯塔工厂率先实现了这一步，已实现“零排放”，排出的污水在处理后要通过一个金鱼池检查，如果能养活金鱼，说明这个水是安全的。另外，我们采用了领先的涂装设备和技术、领先的废气处理设备、领先的吸尘净化设备，来改善制造环境。比如，机器手在喷漆时，人在旁边都闻不到味道。这些是响应国家号召的具体行动，我们没有停止过，我们改善了环境，也就间接地增加了我们对年轻工人的吸引力。

### 欢迎在我们这里工作到退休

“卡车之家”网：设计数模化、制造灯塔化，减少了人工操作，会不会引发减员？

李贵平：由于大量采用了自动化生产，包括大量采用机器人，自然会带来一线人员减少，但为了支撑一个高速运行的现代化工厂，数字化车间和后台要增加很多人。比如设计中，数模化设计有很多细节需要在模型上体现，这需要增加很多人，因为大量的生产指令是通过键盘敲进去的，这些都需要专业技能人才。所以，这里增加的人和增加的工作岗位，与我们减少的工作岗位并不是一样的，我们是“以人为本”，减少的是笨重的体力活，而辅助岗位会大量增加，而且增加的是 90 后、00 后，愿意干“键盘侠”工作的。

实际上，我们企业每年都会有一些蓝领工人自然的流失，未来我们也会注重多招募受过高等教育的年轻工人加入我们团队，来我们这里工作到退休。

我们不希望招来的很多年轻工人，用了五、六年就自然淘汰了，这不是现代制造业追求的目标。大家都很羡慕“德国制造”，德国工厂培养的技工是用到退休的，我们也希望在未来“中国制造”的数字化工厂里达到这个目标；同时，要警惕转型陷阱，多尊重员工、多培养员工，争取“每天进步 1%”，就是员工对企业持续发展最有力的支撑。如果你愿意与公司一起发展，我们愿意助你成长，为你提供更多学习机会，满足千人千面、追求不同职业生涯发展的诉求。

《现代物流报》：您能用几个关键词形容 2017 中国专用车行业的发展吗？

李贵平：我觉得新时代的行业关键词是，守法守规，数字化管理。



# 中国专用车制造 领导者是怎么炼成的？

□ 纪鹏飞 甘应鑫

2017年11月4日，中国汽车工业协会专用车分会理事长、时任中集车辆（集团）有限公司董事总经理李贵平，在中国专用汽车产业发展国际论坛上，首次向业界公开中集车辆“灯塔项目”，引起业界高度关注，这项面向未来的工艺和装备升级计划，有望颠覆现有专用汽车的管理和生产方式。通过产品模块化技术、制造系统数字化集成技术，过去需要1000多人完成的产量，现在只需200多人即可完成，生产和管理更加高效和智能，且生产过程无VOCs排放，更加环保节能。

中集车辆为什么实施“灯塔项目”？“灯塔项目”将把中集车辆带向何方？我们就上述问题采访了中集车辆“灯塔项目”团队，试图解开“灯塔项目”的神秘面纱。

## 几经波折，中集车辆寻求技术与工艺突破

中集车辆自2002年进入道路运输车辆制造行业，之后发展速度惊人，2004年跃居中国规模最大的专用汽车制造企业，当年生产规模和产销量位居全球第一并持续至今。尽管专用汽车行业如今仍存在“小、散、乱”的现象，但中集车辆的进入意味着专用汽车行业规模化和集团化的可能，也为今后专用汽车行业大举兼并重组、进军国际化市场提供了样板。

凭借集团在集装箱领域娴熟的技术、工艺和长期面向海外市场的经验，中集车辆对管理和生产进行了革新。2004年完成对驻马店华骏和扬州通华的收购，全新打造中集车辆板块；随

着对专用汽车行业认识的加深，中集车辆在销售网络、售后服务、融资租赁等方面首开行业先河，建立了自有体系，并从2009年开始将欧洲技术与工艺引进中国。

目前中集车辆在全球拥有25个生产基地，13000多名员工，在专用车领域已经形成了集装箱骨架车、平板车、栏板车、仓栅车、冷藏（保温）车、厢式车、液罐车、粉罐车、搅拌车、环卫车等10大系列近1000种类的生产能力，连续3年位居全球挂车行业产销量第一位。

在较短时间内雄踞国内乃至全球市场第一，中集车辆为什么还会花大手笔“反复革自己的命”？主要还是对于国内和全球市场的危机感。

2017年中国国际商用车展期间，李贵平接受采访时表示，在中国经济“新常态”下，国内专用车市场正面临前所未有的挑战：中国正逐渐失去人口红利、原材料红利等各种成本优势，一旦全球化趋势将这些优势拉平，那么中国产品的地位将是危险的，建立技术壁垒才是最重要的举措。

事实上，作为一家全球化的跨国企业，中集车辆自2007年开始收购多家欧洲专用车企业以后，尝试将国内低廉的制造成本和欧洲雄厚的技术对接，但效果却不理想。受制于制造的低效率和高成本，荷兰博格公司的经营处于亏损状态。2007年，中集集团收购荷兰博格公司后，当时负责中集海外业务的李贵平有意撮合荷兰博格公司于比利时的全资子公司LAG与中集

通华合作，双方都以罐式车为主打产品，有着很大的合作空间。中集车辆当时的想法是：LAG将一部分低效率的制造业务转移到中国，提升产量；同时，中集通华得到欧洲技术和工艺，实现高端市场的突破。

虽然当时LAG的罐车技术在欧洲已不算顶级，但国内技术水平与之相比还是有较大差距。这是当时代表中集车辆最高水平的欧洲制造技术，向国内核心生产基地转移的一次尝试，这场合作前期以失败告终。LAG担心中集通华的产品质量，中集通华担心欧洲罐车工艺复杂、工时长、利润薄，因此双方热情逐渐消弭，合作遂于2009年陷入停滞。直到2013年，中集车辆总部协调2家公司明确了交易规则，双方合作才逐渐进入正轨。

中集通华和LAG合作的受阻，让中集车辆认识到：单纯地撮合国内和国际市场，遇到的困难比想象中的大很多，其中最关键的是产品工艺和制造工艺的差别。于是，2008年4月，为了拓展欧洲的骨架车和侧帘车市场，中集车辆在深圳中集专用车有限公司（简称：深专）启动了LAG#2号通用半挂车生产线项目。与上次中集通华的局部改造生产工艺不同，这次中集车辆将LAG的生产线复制到深专，利用中国的产能和低成本优势，在中国生产零部件，然后再运往比利时LAG进行组装销售。

中集车辆派出了11名骨干人员，前往LAG全面学习了制造工艺、装备技术、质量控制及工厂运营等知识。回国后，耗资3000万元人民币，在深



专建立了LAG#2号生产线；然而，这条复制欧洲的生产线没有运行多久，就在中国遭遇“水土不服”。

由于欧洲的技术标准高，加工设备昂贵，有些需要几十万欧元才能买到。出于成本考虑，深专采用引进国产设备，或者自我改装的方式替代了部分欧洲设备。这样一来，造出来的零部件，精度和质量也就不能和LAG的零部件精准对接，返工又会造成效率低下和成本增加。另一方面，由于国内制造水平和原材料供应一时难以满足欧洲标准，很多原材料和配件需要从欧洲进口过来，造成了成本增加。深专的LAG#2号线，后来被改装做其他产品，LAG后续也逐渐剥离了不赚钱的业务，只保留了核心的罐车业务。中集车辆此次复制欧洲技术的尝试，以失望草草告终。

2011年，针对LAG#2号线的失败，中集车辆在当年3月启动了以进军德国为目标的BSG项目，7月启动了面向国内市场的“黑牌车”和“银牌

车”技术，在国外和国内市场同时试点。BSG项目使用德国的装备和技术，主要涉及平板车、侧帘车以及冷藏车业务。黑牌车和银牌车技术是中集车辆总部的技术团队对BSG的模块化理念进行了重新梳理，并设计出标准图纸，用于实现国内技术标准化的探索。2011年7月，黑牌车项目启动，主要车型为骨架车、平板车和栏板车，生产线建在中集东岳；2012年8月，银牌车项目启动，主要做面向中国冷链运输市场的厢式半挂车，生产线建在青岛中集。BSG项目由于整个营运链条非常长，成本非常高，最终3年后夭折。

四起四落。从中集通华和LAG合作改造国内生产线到深专引进LAG国外生产线，再到BSG项目和黑牌车、银牌车项目受阻，尽管中集车辆多次尝试都以失败告终，但对中集车辆的技术升级，却起到了关键的启示作用，尤其是BSG项目让中集车辆开始接触到半挂车制造的“第三代技术”，即“设计模块化、生产节拍化、柔性生产管

理”，并对技术升级有了全新认识：对欧洲工艺和产品的引进，不应该是局部，而应该从设计、生产、服务等全方位的引进，并根据中国国情具体问题具体分析，这便是后来中集车辆“灯塔项目”的雏形。

**中国黑牌车和银牌车项目没过多久也因国内治超不严，在市场竞争中成本高昂而不得不中止。**

## 结合国情，推出升级专用车技术的“中集方案”

2014年1月，以探索数字化工厂样本为目标的“灯塔项目”正式启动。整个规划周期历时一年多，建设用了一年。工厂筹建前，中集车辆对整个项目的信心十足。这种自信来自2方面：一是制造半挂车的“第三代技术”脱胎于目前的乘用车生产工艺，以先进零部件制造为核心，吉利、比亚迪等企业已经大面积使用。二是这些技术都不是新技术，投资没有风险。

在中集车辆管理层的构想中，“灯塔项目”的核心是“以生产汽车的方式生产半挂车”，围绕这个核心的3大支柱是“模块化的产品设计”“自动化的物联设备”，以及连接二者的“信息系统”。如果说前面的探索只是零星的尝试，那么“灯塔项目”就是系统化的大规模投资。李贵平说：“这次中集车辆再也不贪便宜，全按德国标准来。”“灯塔项目”，是一次对技术升级路线进行系统梳理后的全新起点。通过打造数字化企业，将中集的研发、设计、生产、营销、售后、品牌管理和知识产权管理等串联起来，以提高企业核心竞争力，维持中集车辆在全球竞争中的领先地位，为客户提供更优质的产品 and 体验。

**中集车辆打造的“灯塔项目”是基于“第三代半挂车生产技术”而进行的一场革命。为什么取名“灯塔”？李贵平在中国专用汽车产业发展国际论坛上表示：“灯塔寓意照亮前行的路，也希望成为行业技术升级的方向。”**

李晓甫博士4年前加入中集车辆时就接触到“灯塔项目”，对于“灯塔项目”的取名，他当时也有点懵。“中集很多业务跟海洋有关系，难道真的要做灯塔吗？”如今已是中集车辆“灯塔项目”组组长的他，后来才知道这是有象征意义的。一方面是照远，一方面是照近。远的地方可以照亮一条先进制造之路；照亮近处是指，实施项目的企业也能够实实在在地获得好处、得到盈利能力的提升。

与前几次相比，中集车辆对“灯塔项目”尤为谨慎和重视。很多项目组成员告诉笔者，为了“灯塔项目”，李贵平投入了很多时间和精力，他很多的其他工作都可以放下，但唯独“灯塔项目”的很多决策和讨论都是亲力亲为。李贵平透露，东莞灯塔工厂的筹建，贯穿始终的有2个阶段：规划阶段和建设阶段，先规划后建设。这2个阶段中有2条很明确的主线：技术上的突破和管理上的创新，“先把产品设计出来，再把生产线拉起来”。

2015年8月，经过前期的论证和规划，中集车辆在2016年底成立数字化工程兴趣小组，在东莞中集开展数字化工厂构想，以及规划和建设。为了针对性解决研发过程的过程，中集车辆总部技术团队联合有关外部资源对中集车辆的整个研发体系和管理体系进行了深入调研。他们发现：以当时的东莞中集为例，国内工厂在产品研发、数据管理和知识重用、变更管理设计、工艺协同管理、项目管理、售后服务、IT工具及平台等方面存在诸多问题。

虽然中集车辆技术部门的二维、三维CAD软件应用已取得了一定成绩，但还未形成一个系统化的应用体系和支持环境。不同的车型项目采用不同的设计软件，设计与仿真的协同能力弱，产品设计与工艺设计的协同能力

差。产品模型建立表现出片面性和单一性，造成了产品模型信息的不完备，使建模系统只能顾及产品开发过程中某一方面的问题，而不能满足设计全过程对产品模型的需求。产品数据以文件夹的形式在公共服务器上管理，不能对三维零部件版本进行有效控制，不利于数据安全管理和运用，影响了开发效率。此外，由于历史原因，没有统一的CAD工具，BOM信息在Excel中创建，靠手工维护；3套ERP系统集成，只管财务，不管生产和库存，没有形成一个闭环的信息系统。

项目组调研后还发现：总部对研发和生产的IT管理功能缺失。深圳坪山技术中心也曾经推广过EPDM，但也没有用起来。许多单点的IT系统导致集成能力弱，订单-采购-生产-库存系统没有形成闭环，库存量无法实施监控，变更执行无法在系统内完成，导致库存量超高。中集车辆总部采用了集团OA的项目管理系统，深专没有运用。这些问题如果长期存在，将严重影响东莞中集的市场竞争力，导致新车开发能力落后，研发效率低下，质量无法改进，无法承接更多的新产品开发任务，最终影响到企业战略目标的实现。

针对上述分析，中集车辆“灯塔项目”组认为，现在是东莞中集专用车有限公司全面导入数字化产品研发和数据管理平台的最佳时机。

有了前期深入扎实的调研，东莞灯塔工厂的轮廓逐渐清晰起来。在项目组最初的设想中，东莞灯塔工厂是要建立全球供应的零部件工厂，用模块化方式生产整车零部件。随着项目推进，这个投资数亿元（人民币）的项目在模块化工业设计、自动化物联以及信息系统方面，将中集车辆技术团队带入了更高层面的思考，并孕育出

整个东莞灯塔工厂的规划架构；所有生产流程在管理者的电脑中一目了然，生产过程出现任何问题，都可以清晰地追根溯源，寻求解决方案，变成一个全透明的自动化、数字化教导车间。

因此，东莞灯塔工厂紧密围绕产品研发主线，以信息集成为技术手段，建设适合东莞中集业务特点的贯穿产品全生命周期的数字化统一平台，实现研发过程对数据信息的有效整合和管理，建立在数字化统一平台下的设计制造协同体系、产品研发的高效运行模式和管控流程，进一步有效提升产品研发全过程的管理能力、设计能力、工艺能力、制造能力、协同效率和快速反应能力，增强企业的核心竞争力。

2014年5月，东莞灯塔工厂获得一期土地的使用权。2015年4月，工厂一期工程正式动工兴建。2016年7月，东莞灯塔工厂建成试产，并于当年9月22日中集投产35周年时

首次公开：全自动化的切割、上下料、焊接、喷涂，庞大的工厂看不到几个工人，一切都是紧锣密鼓地进行着。无论是下料切割精度、油漆的耐磨性，还是产品的表面光滑性，都令人赞不绝口。东莞灯塔工厂替代了约45%的人工，且工艺的标准化和产品的精度要高于人工，生产效率提高66%，物流效率提高90%，对目前劳动密集型的专用汽车行业而言，确实是一种颠覆。

### 多点开花，东莞灯塔工厂有望颠覆专用车行业生产模式

东莞灯塔工厂于2016年7月投产，正值美国半挂车行业处于周期下行阶段；东莞灯塔工厂的启用，使得人工成本降低，材料利用率得到很大提升，为中集车辆在美国市场攻城略地起到了的支撑作用，利润也大幅提升。



生产效率提高 **66%**  
物流效率提高 **90%**



据东莞中集专用车有限公司总经理高承文透露，东莞灯塔工厂一辆车的制造成本比传统制造的综合成本降低1000元（人民币）。也正是东莞灯塔工厂的投产，让深专在2016下半年缓解了环保风暴给专用车行业带来的影响。他说，如果东莞灯塔工厂晚半年开工，中集车辆要少赚1.3亿元（人民币）。

与此同时，“灯塔项目”不仅为中集车辆下属企业输送了技术升级路线，也成为下属企业的人才孵化器。在项目实施之初，李贵平就提出要求：“我们的技术队伍，不仅要出课题，更要输送人才。让那些有技术背景、技术专长的人才，充实到业务的各个环节中去，以促进车辆业务更快更好地发展”。作为“灯塔项目”时任总指挥的申建文，将中集车辆技术团队和下属企业的关系比作甲方和乙方的关系，双方是平等的合作关系，由中集车辆总部派出技术精英前往企业指导，项目完成后这些人员会全部返回总部。这种方式既能发挥总部技术团队的优

势，又能促进技术共享，使总部技术团队得到充分的实践历练。最重要的是，支撑了技术战略的有效落地。

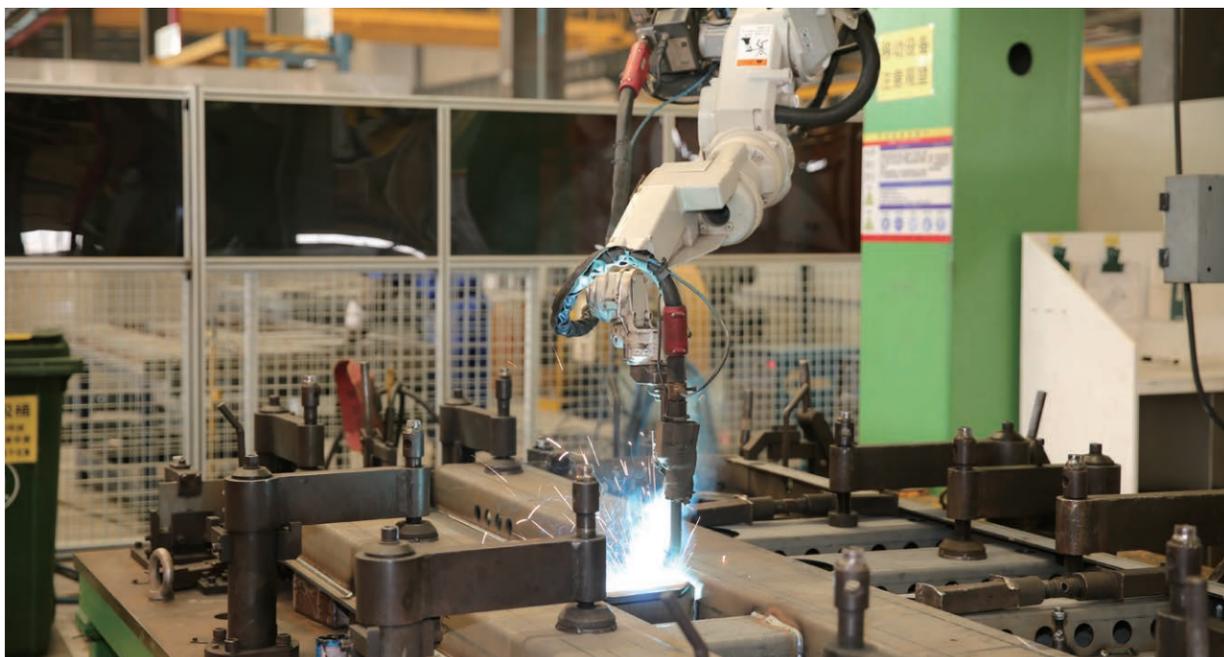
“现在中集车辆与下属企业的技术层面交流也更多了，也更加务实，对企业的帮助更大。”一位不愿意透露姓名的中集车辆下属企业中层向记者透露，专用汽车行业集团化管理一直是个难点，中集车辆想把很多国外的经验和技术输送过来，但很多时候会“水土不服”。

如今中集车辆正在尝试有偿的共享机制，打破各企业之间的闭塞和障碍，在长期合作基础上，强调责任、权力、利益对等。付费是企业对这种新技术价值的认可；企业下单之后，再用契约的方式把双方合作的原则定下来，实现双赢。2015年，中集车辆首次在轿运车方面实行“五进三”田径赛马规则，将新技术应用委托给资源最好的扬州通华。随后，也向其他企业传递信息：这种新技术谁想要，可以有偿使用。申建文说：“总部并不是希

望通过这种方式来挣钱，而是一种导向。我们希望培养出尊重知识、激励创新的土壤。”

东莞灯塔工厂的成功，也给中集车辆管理层以很大信心。2017年的董事会上，中集车辆管理层又批准了6亿元（人民币）投资，分别在扬州、驻马店工厂建立灯塔工厂。与东莞灯塔工厂聚焦北美市场不同，扬州通华和中集华骏的灯塔工厂更多地聚焦新兴市场和国内市场。

与此同时，中集车辆的“灯塔项目”也在逐步升级。如果说东莞工厂是1.0版本的话，中集华骏和中集通华的东莞灯塔工厂则是2.0版本。中集华骏着重在智能化制造方向探索，中集通华则向数字化车间领域延伸。中集车辆还给中集通华的数字化教导车间，起了一个极具探索意义的命名：“麦哲伦”，这意味着在东莞灯塔工厂看清数字化方向后，便有了开船向前乘风破浪的“麦哲伦”，去摘取更多的未知成果。



东莞灯塔工厂在东莞已经取得很大成功，为什么还要在中集华骏和中集通华分别试点不同的内容？申建文表示，与东莞工厂不同，其他几家正在开建的东莞灯塔工厂一边搞建设、一边忙生产，用李贵平总经理的说法，就是在一个飞行的飞机上去维修，因此作为企业要把生产效率尽快转换成经济效益。

由于中集通华和中集华骏 2 家企业在市场和产品布局上有所不同，所以具体的分解技术就有所不同。因为东莞工厂已经有了数字化的基础，但还不够完善，更多是在智能化方面发展。申建文表示，“灯塔项目”投资数亿元，探索成本很高，但投资较少的教导车间更像一个实验室，可以进行各种实验的碰撞，承受各种试错的风险。分解的技术在不同的工厂去验证，成功一个，复制一个。

“灯塔项目”目前适用于批量化、标准化的挂车产品，而中集车辆旗下很多企业还有大量的专用汽车产品，不适用于“灯塔项目”的这些产品怎么办？申建文表示，“灯塔项目”不适用下属企业完全取决于企业本身，

好比说：想做一个全科医生还是做专科医生在于自己的决策。从目前来看，没有绝对的全科医生只有绝对的专科医生。中集车辆是一个完整的企业，在这种情况下，中集车辆有一个大的技术路线，更多的是需要各企业努力，因此“灯塔项目”能不能实施不是中集车辆强加给下属企业，而是企业根据自己的产品结构自主选择。当然，“灯塔项目”投资巨大，不是一个简单的盈利产品的激励，而是关系到企业生存的问题，想不想技术升级？有没有能力？首先要解决能力问题，之后操作层面的事情则很好办。

“从东莞的灯塔工厂到扬州的麦哲伦项目，再到驻马店华骏“灯塔项目”，这本身就表明中集车辆的创新是不断升级的。”在 2017 中国国际商用车展接受媒体专访时，李贵平表示。中集车辆目前正建的东莞灯塔工厂已有 3 家，未来会不会有新的企业加入？“我们内部也需要竞争，如果你不努力谁能够保你能够上到一个新的台阶上去。”申建文表示，3 家只是今天的数字，他相信有这 3 家榜样的力量，会有很多企业练就自己的内功去达到这个水平。



# 平安资本成为中集车辆第2大股东

□ 甘应鑫



2017 年 12 月 18 日，平安资本以 8.18 亿元的出资，完成受让中集车辆 10.77% 的股份，标志着平安资本在国企混合所有制改革中获得了重大突破。

中集车辆成立于 2002 年，其控股股东中集集团隶属于国务院国有资产管理委员。中集车辆是全球销量第一的半挂车（及专用车）生产商，占中国市场 25% 份额，全球市场 10.5% 份额；在全球拥有 25 个生产基地。

为提高市场竞争力和国有资产运营效率，同时也为了丰富董事会资源和优化治理结构，中集车辆早在 2015 年 11 月就已引入平安资本、日本住友、南山等战略投资者。当时平安资本通

过增资 10.9 亿元人民币，获得了中集车辆 16.8% 股权。

中集车辆在平安第一次增资完成后，利用增资获得的资金，于 2015 年收购了占英国市场 38% 份额的英国最大的半挂车生产商 SDC，填补了中集车辆在全球营运布局中欧洲市场的短板，进一步巩固了全球行业第一的地位。凭借全球化战略和抓住短期细分市场的机会，中集车辆获得了较好的经营业绩。截至 2017 年底，公司总资产已达 160.93 亿元人民币，净资产 70.68 亿元人民币；2017 年共销售各类半挂车（专用车）16.3 万辆，销售收入达到 195.21 亿元人民币。

2 次增资后，平安资本合计持有中集车辆约 27.6% 股权，成为中集车辆第 2 大股东；标志着平安资本在国资系统新一轮国企改革混改试点中迈出实质性的一步，对平安参与国企改革具有重要意义；同时这也是平安和中集车辆参与“一带一路”和“中国制造 2025”等国家重大战略方面的重要实践。

# 2018中集车辆全球半挂车研讨会 在美国举行

□ 甘应鑫



美国东部时间 2018 年 5 月 8-10 日，由 CIMC IE 承办的“2018 中集车辆全球半挂车研讨会”在美国加州举行，来自全球 15 个国家的半挂车行业的合作伙伴、超过 200 多名中外业界代表应邀参会。

中集车辆 CEO 兼总裁李贵平出席开幕式并发表主旨为《打造全球半挂车运营体系 2.0》的英文演讲，他睿智且铿锵有力的发言，不仅为全球半挂车发展指明了方向、注入了信心，还为中集赢得了全球业界伙伴的敬意和国际媒体的赞誉。

互联网改变了生活的节奏，全球化带来的机遇与挑战并存。因此，今年的研讨会以“全球化时代的一个团队，一个梦想”为主题，旨在探讨新技术的影响，以及互联互通如何应用于制造商、供应商与客户之间日益交叉的关系，以创造更富颠覆性的产品以满足客户日益变化的市场需求。

研讨会的发言人包括中集车辆 CEO 兼总裁李贵平先生、ATA 总裁 Dave Manning 先生、中集财务公司总经理 Jeff Walker。专题研讨会内容包括 CIMC IE 公司总经理 Frank Sonzala

主持的“拥抱技术作为工具”、Vanguard National Trailer 总经理 Charlie Mudd 主持的“内陆运输行业深度探讨”。

从 2004 年起，中集车辆开始筹备和承办首届全球半挂车研讨会，通过 14 多年的努力，现已将研讨会打造成全球半挂车行业的盛会，为全球业界了解中国半挂车发展，以及为“中国制造”企业走向世界，搭建了一个重要的沟通窗口。



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# 美国小镇里的中国企业

□ 李铭 袁悦 王乃水

2017年，58岁的詹姆斯·威尔克森在美国印第安纳州莫嫩镇的挂车工厂已工作了30多年。在这里，他经历了挂车行业的起起伏伏，也见证了这家中国企业如何让这个美国中西部小镇重焕生机。

莫嫩镇位于印第安纳州西北部，距美国第3大城市芝加哥160km。提起莫嫩，附近的居民总会想起“废弃的铁轨”、“大片大片的玉米地”和“挂车厂”。

作为曾经的区域交通枢纽，莫嫩镇在19世纪中叶到20世纪20年代曾经辉煌一时；同时兴起的还有挂车产业，在最景气的年头，当地一家名为“HPA莫嫩”的挂车生产企业雇用过400多名工人，足足占了小镇人口的1/3，维系着上百户家庭的生计。

然而，到了20世纪90年代末，美国经济出现萧条，“HPA莫嫩”与千千万万的中西部企业一样，面临减产、裁员，最后不得不在2000年彻底关停。

“没有了工作，很多人举家搬到了别的地方。后来的2年多时间里，厂区空荡荡的，一个人都没有。”威尔克森回忆道。

“直到中集公司来了。”他说。

2003年夏天，总部位于深圳的中国国际海运集装箱集团（中集集团）来到小镇，收购了

已经破产的“HPA莫嫩”。在接下来的几个月里，立志拓展海外市场的中集集团马不停蹄——恢复电力、重建生产线，在当地招兵买马，成立了中集集团的美国全资子公司——先锋挂车厂。

和其他20多名“HPA莫嫩”的老员工一起，威尔克森成了先锋挂车厂的一员。他做梦也没想到，一个来自万里之外的中国企业，让小镇的挂车产业起死回生了。

“开始时先锋厂里有不到40个人，很快业务越做越好，订单越来越多，现在我们又拥有了400多名工人。”威尔克森对记者说。

14年过去了，先锋挂车厂从最初的小企业起步，如今产品占有率排名全美第四，而威尔克森也从一名工人成为了厂里生产线的负责人。

挂车厂的繁荣让工人们重拾生活的希望，也给莫嫩镇带来了久违的生机。据当地官员介绍，近些年来，先锋厂的年产值占整个小镇年产值的80%以上。

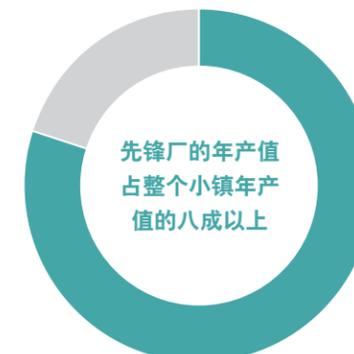
“先锋厂对于莫嫩太重要了，这里几乎每家每户都有人在厂里工作。先锋厂交的税，撑起了镇上的学校、医院这些最重要的公共设施。”莫嫩所在的怀特县经济发展部门主管兰迪·米切尔说。

米切尔告诉记者，先锋厂的成功让他意识到，吸引来自中国的投资对于怀特县的发展至关重要。2017年，他第一次率团前往中国，并与江苏省阜宁县签署了友好交流城市合作协议，拉开了与中国更多互利合作的序幕。

在先锋挂车厂的首席执行官查理·马德看来，工厂的成功缘于中国企业对美国市场和当地文化的尊重。“这是中国投资的企业，由美国人在运营。”

“中美双方优势互补，中国企业很好地融入了当地社区，这是一次真正意义上的合作。”马德说。

莫嫩小镇也用自己的方式记录着中国企业的到来。在当地人引以为豪的火车博物馆餐厅里，代表小镇辉煌历史的火车模型琳琅满目，而最



引人注目的，莫过于一辆在餐厅上空来回穿梭的小火车，车头后面拉着一个白色的集装箱车模型，车身上刷的正是“先锋”字样。

（注：本文发表于“新华网”，2017年11月13日）



# 中集何以成就世界第一?

□ 苏梓威 戴晓晓

行走在美国、英国、荷兰、比利时、日本、澳大利亚等发达国家的街头，如果你细心留意，一定能够看到带有“CIMC”标识的半挂车呼啸而过。“CIMC”是中集集团的英文缩写，这家总部位于中国深圳蛇口的企业可谓世界半挂车制造领域的“冠军”。

2个月前，这家年均产值约600亿元（人民币）的大企业迎来了35岁生日，其集装箱产销量连续20年居全球行业第一。但集装箱不是它的全部，如今的中集集团已经基本实现了从简单制造到系统集成的产业升级，从单一的集装箱业务扩大到集装箱、车辆、能化装备、海工等8大业务板块，并在半挂车、登机桥等交通设备领域成为世界第一。

当初在道路运输装备领域没有任何经验的中集，究竟是如何“逆袭”并稳居市场地位，同时保持不断创新的呢？《南方日报》记者近日走访中集，试图揭开行业“冠军”背后的秘密。

## 为集装箱“装上轮子”，推动中国物流车辆全面升级

2016年，中集集装箱板块因行业周期而陷入低谷，而中集车辆延续多年的稳定增长成为了中集集团利润的第二大板块，确保了中集连续23年盈利。2017年前3季度，中集道路运输车辆业务继续延续高速增长，营收146.55亿元（人民币），同比增长超过40%。

而中集进军车辆制造领域，要从1999年说起。这年春节，中集集团CEO兼总裁麦伯良到澳

大利亚休假，他发现路上行走的厢式挂车（Van Trailer）的外观与集装箱非常相似，像是“装着轮子的集装箱”：“它们漂亮又安全，和国内高速路上边跑边洒落货物的货车形成鲜明对比。我们应该把欧美先进的物流装备引入中国，把中国制造装备销往海外。”

麦伯良对当时的中国物流效率低下忧心忡忡，希望通过多式联运和标准物流改变现状，而车辆装备制造正是最合适的选择。中集进军每一个细分市场的路径都有些类似：把握时机，并通过收购该行业内最先进的企业实现快速切入。

2002年，中集车辆（集团）有限公司正式成立。诞生之初，中集车辆便选择了国内市场和海外市场齐头并进的思路。自2003年起，初生的中集车辆以收购兼并的方式，将中国专用车行业内的佼佼者扬州通华公司、驻马店华骏公司等收入囊中；同年，中集并购与重组美国Vanguard，开启了中集车辆进军海外市场的序幕，加快全球布局。

由于竞争对手发展相对保守，中集的车辆业务很快就实现了爆发式扩张。2007年，中集车辆的生产能力和规模便已位居全球第一。2016年6月，中集车辆全资收购了英国最大的半挂车生产商Retlan集团，进军英国半挂车市场并向欧洲进一步拓展。

2015年，美国权威行业咨询机构ACT Research数据显示，中集车辆的半挂车产品已经在全球市场占有率名列第一，即使在竞争

最为激烈、品质要求最高的欧美市场也分别进入了前3名和前5名。中集相关负责人介绍，目前，中集车辆产品年销量超过12万辆，销量占据全球10%以上的市场份额，连续3年蝉联该行业的全球第一。

步入发展快车道之后，中集车辆遇到了一个难题：营业额高速增长且在2011年达到顶峰，接下来可能面临下滑态势。“我们希望提高生产效率和产能，在人员不增加的前提下，占领更多市场份额。”时任中集车辆集团董事总经理的李贵平告诉记者，数字化升级势在必行，中集希望打造一个数字化工厂，利用数字建模、自动化生产、制造执行系统，全方位实现智能制造。

## “灯塔工厂”助力生产效率提升40%

干净整洁且现代化气息浓厚的工厂内，自动化的物联网设备随处可见，制造一辆半挂车所需的切割、上下料、焊接、喷涂等工艺设备，都实现了互联互通功能。这些设备能够根据互联互通的信息指令，完成一系列生产动作，并能及时反馈自身的生产状况。

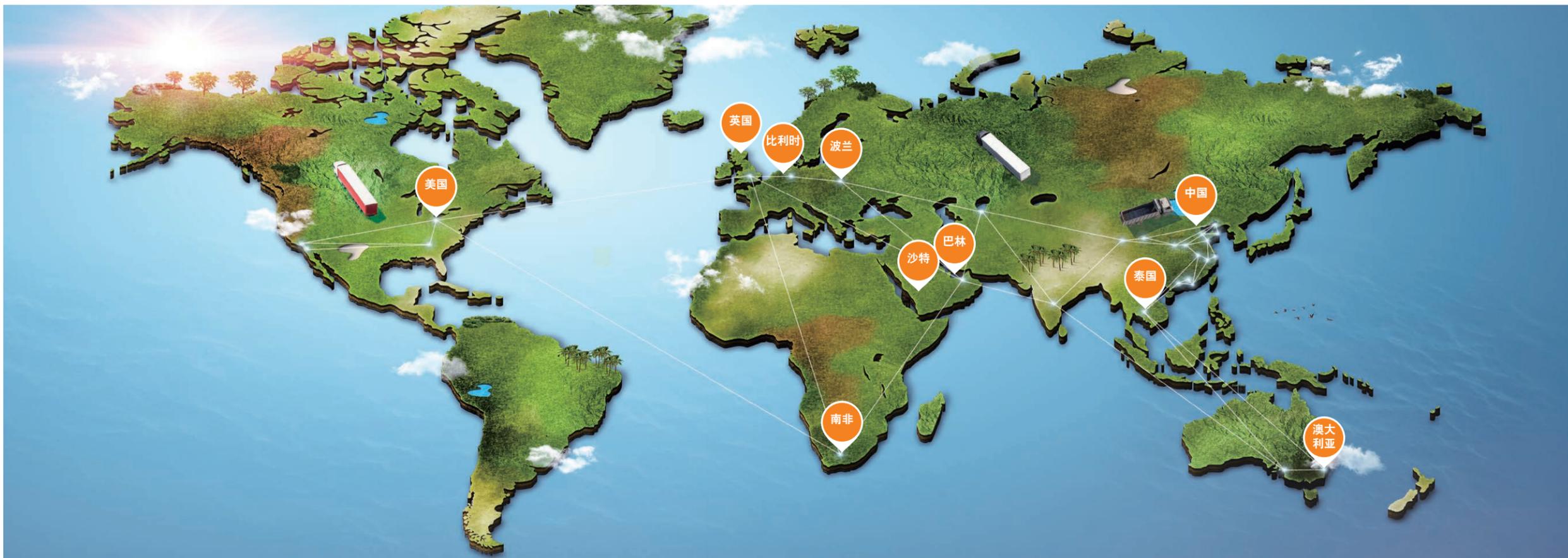
这是记者近日探访中集在东莞建立的全最新进的半挂车（零部件）工厂所见之景，它还有个好听的名字——“灯塔工厂”。其中中集集团旗下中集车辆提出，目的是为了紧跟国家战略和世界潮流，探索自动化、数字化的生产方式。

用模块化的方式生产整车零部件，之后这些零部件会根据全球市场的需求，运送到各地进行灵活组装。美国CIE公司CEO Frank Sonzala总是对客户这样介绍，“你们看，中集灯塔工厂来的产品，切割的精度、表面油漆的光洁度和保修年限等都是其他产品无法比拟的。”

东莞中集专用车有限公司总经理高承文介绍，该灯塔工厂始建于2014年，2016年7月建成试产，是中集车辆重要的先进零部件生产基地。灯塔工厂拥有行业领先的生产线，技术领先于全球，使得生产效率大幅提升40%。

在灯塔工厂外，《南方日报》记者留意到了一个鱼塘，10多条金鱼在清澈的水中游动，而这最初是工厂排出的废水。这是怎么做到的？高承文告诉记者，工厂含有重金属的废水经过自建的污水处理站处理达标后，可以循环使用，





最终实现 VOCs（挥发性有机物）零排放；而非含重金属废水则经自建的另一污水处理站处理，达到地表 IV 类水质标准后排放。

时任中集车辆“灯塔项目”组长李晓甫博士介绍，支撑灯塔工厂的是 3 根“柱子”：模块化的工业设计，自动化的物联网设备，以及连接二者的信息系统。“简单来说，就是在对半挂车制造深度理解的前提下，研究设计出能够满足各类产品需求的模块，以供灵活组合。”他说，目前中集已初步研发出 8 套产品的模块化设计，基本可以满足美国市场所有骨架车的需求。

“机器生产的好处是将经验和流程固化，减少随机性，并把人力从这些笨重、危险的工况中解放出来。”李晓甫表示，整个灯塔工厂就像一个全透明的自动化、数字化车间，所有的生产流程在管理者的电脑中一目了然，任何问题都能清晰地追根溯源并及时解决。

李贵平表示，灯塔工厂能够解决中集目前面临的人工、环保、员工发展等问题，大量采用高精尖工艺可以创造新的岗位，让更多“蓝领”变身“白领”。“这些问题是中国企业共同面临的，数字化模型能够让未来设计迭代加速，让跨界设计、跨洋制造更加容易。”他说。

### 瞄准未来增量业务市场，搭建全球营运平台

从 2016 年 7 月开始，灯塔工厂的产品已源源不断地输送到美国，有着“技术崇拜”情结的美国人、日本人等也会来到工厂参观。2016 年，中集车辆集团研发投入为 2.38 亿元人民币；截至 2016 年底，中集车辆（国内企业）累计拥有专利 826 件，其中发明专利 216 件。

但中集并不满足，时任深圳中集专用车联合总经理的蒋启文表示，“美国只是存量业务市场，而灯塔工厂所要瞄准的是未来的增量业务市场，包括全球标准最严苛的欧洲市场，甚至是更广阔的全球市场。”

李贵平告诉记者，要实现这一目标，离不开全球供应链管理、跨界设计以及跨洋制造这 3 大“法宝”。

“我们的方法是，不断优化全球营运效率，依托中国制造为基础的全球供应链，充分利用全球制造网络、全球海运及技术人员的智慧进行跨界设计。”李贵平举例说，中集车辆在美国销售的产品，也不都是 100% 在美国造，“可能有一大半的零部件在中国制造，然后运到美国组装成整车。”

事实上，企业要可持续发展，不能只靠收购、兼并，积极部署全球化营运才是重点所在。在李贵平看来，全球营运不仅是地理上的全球存在，公司更高阶段的全球化是合理配置全球优势资源。总而言之，就是“全球营运·地方智慧”。

李贵平说：“所谓全球营运，是指中集整合所有资源，提升市场地位，发挥统一协作的优势。以中集车辆核心零部件采购为例，中集提出将其全球供应链的集中采购面向供应商，从而达到让对方降价让利的协议；而本土智慧，则是指中集海外公司的管理团队以当地人员为主，发挥本地经营优势。”

（注：本文发表于《南方日报》，2017 年 12 月 6 日）

# 迎合市场需求， 中集新一代冷藏车面世

□ 宁文祥

2018年2月2日，中集车辆（集团）有限公司在山东济南召开“Greenbody 厢体项目评审验收及交厢仪式”。Greenbody 厢体是中集车辆自主研发的新产品，也是国内新一代冷藏车制造领域的最新研究成果，具有重要的理论意义和领先的实用价值。

## GREENBODY冷藏车：绿色制造，贡献中集力量

Greenbody 项目，是中集车辆联合旗下的青岛中集冷藏运输设备有限公司、中集车辆（山东）有限公司敏捷、协助、共同研发的全新冷藏车产品，也是中集车辆 2017 年产品研发项目的收官之作。

Greenbody，顾名思义，是一款绿色产品。利用引进行业领先的全新发泡设备，采用 245Fa 和环戊烷发泡剂进行发泡制板。与传统的发泡工艺相比，全新的工艺发泡后无有害气体产生，非常符合国家当前绿色制造的要求。

这款全新的冷藏车长度为 9.6m。从“颜值”来看，该产品外形十分美观，采用了金属外蒙皮，外表面相当光滑，并在去掉加强筋的“印痕”之后，“欧美范”十足。从“内涵”来看，保温性能是冷藏车最重要的性能之一，经过测试，Greenbody 冷藏车传热系

数小于 0.38W / m<sup>2</sup> .K，保温性能相当优越。Greenbody 厢体底板采用整根铝导轨拼接，对缝处通焊，同时防磨板采用铝制，与铝导轨通焊。这样可以最大程度地保证厢内的防水性和所运货物的安全。

“市场急需什么，我们就制造什么。”时任中集车辆技术总监申建文表示，该产品以其独特性能，必将为冷链运输装备行业注入新的活力。

## “荫凉厢”式中置轴挂车：引进欧美先进制造理念

GB 7258-2016 标准出台后，中置轴挂车，这一欧美流行的运输工具开始在中国兴起。除了中置轴轿运车成为热点外，不少企业还把注意力放在了中置轴货运挂车上。其中：中集车辆集团旗下的山东中集率先开展了中置轴货运挂车的研发，2017 年将国内第一辆中置轴货运挂车推向市场，到年内拿到市场 95% 的订单，中集车辆引领了该物流模式的变革与发展。在中集车辆的 Greenbody 项目中，除冷藏车外，还包括了“荫凉厢”式中置轴挂车。这款中置轴挂车能与前面介绍的冷藏车组合在一起，提高了运输效率。

这款“荫凉厢”中置轴挂车主要适用于散装货物、箱包货物以及家电等产品的运输，特别适

合在冬季及夏季运输那些对环境温度有一点要求的货物，比如：瓶装酒、饮料、奶制品、果蔬等。

这款产品相比目前市场主流的瓦楞板箱体及木质复合箱体，保温性能更好。在细节设计上，它引进了欧美先进制造理念，在参考相关车型的基础上进行了创新升级，并将这款中置轴挂车的轴距从较为常见的 1310mm 改为 1500mm，让车辆变得更为高效。其牵引杆上的支腿系与支腿生产厂家联合研发，具有轻量化、效率高的特点。

## 笔者观察：从点成面

Greenbody 项目基于 Reefer1.5 先进发泡制板工艺和数模化设计技术，其目标是开发出引

领中国未来 5 年发展的冷藏厢体。中集车辆内部协同，优势互补，共享开发成果。我们相信，这种从点的开发变成一整面的携手开发，从点的优势变成一整面的优势资源整合，势必带来集约化效应和高效产出。

2017 年，中集车辆已撒下多颗创新的种子，期待 2018 年开出一大片花海。

（注：本文发表于《专用汽车》杂志，2018 年第 2 期）



# 中置轴轿运车的春天已来临

□ 肖献法



2018年春天，中集车辆（集团）有限公司（简称：中集车辆）高质量转型升级正焕发出勃勃生机；中集车辆创新的火花在旗下核心制造工厂正欣然绽放。

2018年3月28日，深圳中集专用车有限公司（简称：深专）举行了一场大规模的“轿运车新品品鉴会”，并现场与6家用户企业签署了600辆订单。据了解，此次品鉴会上，深专全面推出了中置轴轿运车系列化新品；该系列新品充分融汇了行业最前沿的智能化新技术，加上良好的一站式服务解决方案，已得到了国内许多用户的认可。

## 贯彻新标准：推出中置轴轿运车新品

据了解，按照2016年7月发布的新版GB 1589-2016《汽车、挂车及汽车列车外廓尺

寸、轴荷及质量限值》的有关规定，2018年6月30日前，“大怪”（上下都装载双排轿车的车辆运输车）、“二怪”（上面装双排，下面装单排的轿运车）等双排车型将被彻底清退；同时，该标准催生了全新车型——中置轴轿运车，而过去国内一直没有这种车型。

然而，新标推行1年多来，许多轿车（车辆）运输企业因对中置轴轿运车产品的质量和市场表现仍心存疑惑，对新规持观望态度，而未大量采购和全面更新为中置轴轿车运输车；而深专举办的这场品鉴会，无疑为相关运输企业注入了一针“强心剂”。

## 推出高品质中置轴轿运车：实现系列化、模块化

据介绍，本次品鉴会推出的轿车运输车产品均为系列化设计。其中：中置轴轿车运输车产品按装卸能力可分为8辆、9辆、10辆3个系列；

其平均装车时间均在30min以内。能达到如此高效，主要得益于深专对运输车辆的上平台模块、前立柱模块、后立柱模块、车架模块、飞机跳模块和附件模块等方面的模块化设计，从而提升了产品的效率与品质。

深圳中集专用车联合体总裁、深专董事长蒋启文表示，“深专一直在赋予轿运车项目最好的资源，最高的标准，为客户造出性能最优、质量最好的产品，让它成为深专另一款爆款产品，为中国道路运输做出新的贡献。此次新品发布，是对过去2年努力的致敬，也是对广大货运企业的支持。”

深专总经理申建文表示，“今天举办轿运车品鉴活动，就是为了让更多用户零距离感受我们的产品，借机将品质更好的轿运车推向市场，为物流行业提供可信赖的装备和服务。”

## 推动轿车运输规范化：中置轴轿运车的春天已来临

中集车辆东南销售中心总经理孙春安表示，过去10多年间，国内轿运车行业违规泛滥，大怪、二怪横行霸道，为道路交通带来了安全隐患；不仅如此，也造成了“越超载运价越低”“市场越超越乱”的恶性循环，令每一位相关运输人苦不堪言。而随着新版GB 1589的实施，轿运车行业的规范化时机已经成熟，中置轴轿运车的春天已经到来。

另据专家预测，目前市场对中置轴轿运车的需求量在12万辆左右，市场空前巨大。事实上，与传统轿运车相比，中置轴轿挂车在运输车辆过程中具有独特的优势：首先，中置轴挂车具有底盘低、转弯半径小的特点，从而增加了主车的拖挂能力；其次，中置轴挂车的应用将有效提高运输效率，安全性能更高，还有节省油耗以及资源的优势；此外，单排中置轴挂车轿运

车的推出，将有效减少事故的发生概率，对治理超载超限具有重大意义。

## 带动行业转型升级：产品+服务

如何才能市场中立于不败之地？深专的答案是——“用产品说话”。据了解，深专秉承“以生产轿车的方式生产挂车”的理念，将激光切割、机器人焊接、电泳喷漆、智能挂车系统等新技术应用到生产中，这也是其能够长期领先行业的基础所在。随着KTL电泳+喷粉环保涂装的使用，“让轿运车永远告别流锈水的年代”，这一理想工艺已经在深专得以实现。

深专客户、重庆华茂机电设备有限公司副总经理袁海波在品鉴会现场接受采访时表示，“我们运输的轿车都是高端品牌，锈水、脏污是对我们最大的威胁。正因如此，我们对产品质量的要求非常高。在了解到深专的先进技术并进行了一系列考察后，我们认定深专的产品防腐性优良、外观造型靓丽且性价比非常出众，并先后购买了2批车辆。深专的产品不仅解决了我们对于轿运车防腐防锈的期待，更与我们提倡的绿色物流理念相契合。”

除了提供优质、环保的产品，深专还针对不同用户需求，提供不同的定制方案，目前包括广汽日野、东风商用车、上汽依维柯红岩、东风柳汽、解放和福田欧曼等多家卡车品牌均受益于深专的定制服务。同时，中集集团旗下中集融资租赁有限公司还为大客户提供“装备+金融+服务”的一站式解决方案，以及重卡和专用车千余个品种的融资服务，从而解决用户在资金上的困难。

随着全新中置轴产品的推出，莅临轿运车品鉴会的广汽日野汽车有限公司总经理助理李勇，对与深专的合作前景充满期待。他表示，“新政实施，必将引起市场需求变化，深专一直是广汽日野战略合作伙伴，相信日野700中置轴轿运车在市场具有强大的竞争力，相信双方的合作一定更上一层楼。”

另悉，从2017年初以来，凭借优质的产品品质和服务，中集车辆已向客户提供了近5000辆中置轴轿运车，不仅实现了自身销量的增长，更推动了整个专用车行业的转型升级。

（注：本文发表于《商用汽车》杂志，2018年第5期）



# 挂车帮与多式联运携手 助力格力物流业务

□ 张鹏云

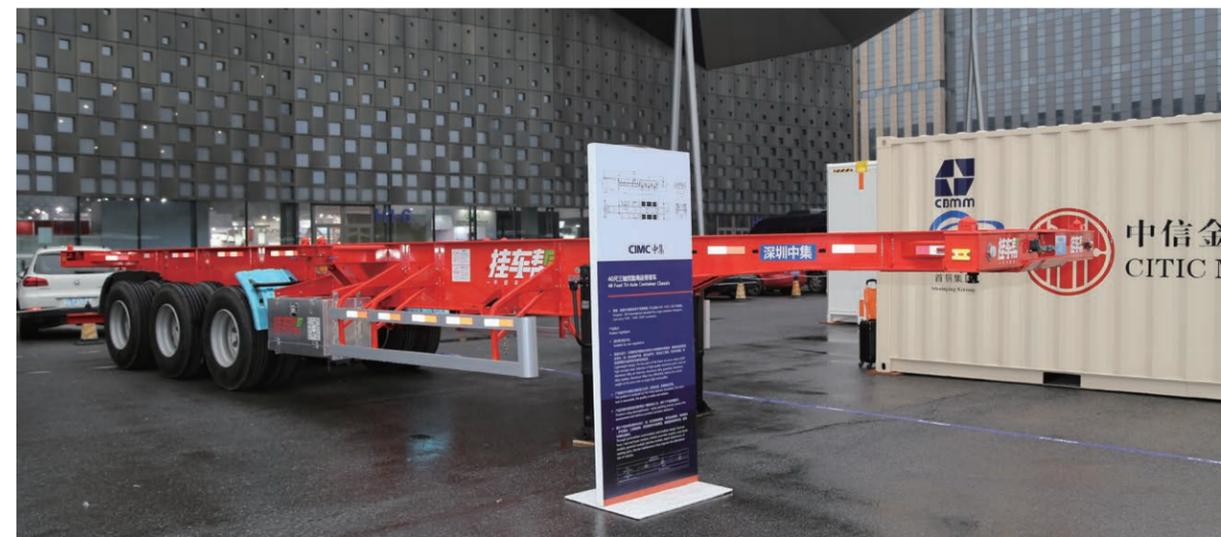


日前，中集车辆（集团）有限公司控股企业——江苏挂车帮租赁有限公司（简称：挂车帮）与中集多式联运发展有限公司（简称：中集多式联运）实施高效衔接，开展业务合作，意义重大。双方在中集与格力战略合作落地项目的基础上，乘势推动落实中集在多式联运领域的创新举措，让铁路场站与公路、港口物流运输的配套衔接“更具魅力”。这也是中集集团“双创”企业抢抓机遇、服务客户、赢得发展的一个生动缩影。

早在2017年初，根据中集与格力签署的战略合作框架协议部署，中集多式联运迅速调整发展战略，明确了“项目制”发展思路，随即成立了格力项目组。

2018年3月20日，中集多式联运通过2018集装箱多式联运亚洲展（2018-Intermodal Asia）的契机，主动对接挂车帮；在双方紧锣密鼓的磋商和协调之后，挂车帮决定“第一个吃螃蟹”，主动布阵出子，走好中集与格力战略合作的棋局。

2018年3月29日，挂车帮紧急调度的14辆海运骨架半挂车，赶赴珠海，交付中集多式联运。这批半挂车作为其承接“格力-珠海港”物流业务项目的主要运输装备，挂车帮也由此实现了从物流类“甩挂运输”，向港口物流延伸的新突破。挂车帮首席运营官何显松认为，“我们的合作是站在了新的起点上，既有优势也有挑战，但都是紧跟市场大趋势走的。”



“挂车帮灵活的经营性租赁机制，可以帮助我们快速建立“运力池”，能够很好地为客户提升运营效率、降低运营成本。”中集多式联运总经理丘春有认为，“挂车帮的经营理念先进，目标清晰，值得我们信赖和期待。”

“信息化是现代物流业的灵魂。”目前，挂车帮正在加大信息化建设力度，利用“互联网”、大数据技术，建立远程监控平台，将各类终端运输数据进行集中采集、存储和挖掘分析，并快速给出相关处理意见，以实现物流运营的实时管理。

“我们是兄弟企业，必须互相支持，我们都给对方一个很好的服务方案和价格，这些优惠

力度在市面上是遇不到的。”挂车帮首席运营官何显松表示，我们双方正在积极商议一个成本更优的物流解决方案，全力把这个项目做成精品项目，让客户满意，让公司盈利。

（注：本文发表于“中国网”，2018年4月20日）

# 中集车辆率先解决国内冷藏车痛点

□ 余梦洁

“每次交付新产品都是我最快乐的日子。”在2017年12月8日，中集车辆（集团）有限公司数模化设计中心主任舒磊，把首批崭新的金牌厢体和 Greenbody 厢体产品交付客户，并正式宣布中集车辆冷藏运输产品又喜添新丁。

中集车辆凭借世界领先的数模化设计技术和 Refer1.5 发泡制造工艺，实现了冷藏厢体研制新突破，以其“自质量轻、保温性好、容积大、寿命长”的技术优势，进一步巩固了中集在冷藏运输装备市场的领先地位。

未来冷藏运输装备市场，将呈现集装箱化和半挂车化趋势。“我们需要未雨绸缪，迎接冷链

大发展的黄金5年。”舒磊表示，我们这次通过模块的组合变化，可以轻易实现“金牌厢体和骨架车”与“金牌厢式冷藏半挂车”的快速切换，以及“厢式货车厢体”与“中置轴厢式货车厢体”的快速切换。我们相信，这些变化会带给客户更多选择。

近年来，中集车辆始终致力于提升自主研发能力和生产效益，先后成立了公司增创委员会孵化新项目，启动了“全球人才育成计划”以聚集和培养优秀人才，积极开展应用技术研究，参与制定国家和行业标准，持续引领行业技术进步。

“在冷链业务领域，中集车辆一直是创世者，也是引领者，我们团队一直有做不完的事，我们太需要优秀人才的加入了。”时任中集车辆（集团）有限公司技术总监申建文透露，近半年来，舒磊忙得不可开交。

舒磊作为这个项目的教练组长，从课题立项、组建团队、制定技术指标和路线，到协同青岛中集冷藏运输设备有限公司、中集车辆（山东）有限公司等企业，组成三方联合研制项目团队，他一刻都不敢松懈。该项目团队从集团旗下的工厂选拔人才加入项目组，通过实战筛选出最切合项目需求的人才，联合研究，创造出了一流成果，引起国内外厂商和客户的广泛关注。

有付出也就有收获，此番交付的这款金牌厢体和 Greenbody 厢体，自带了多项“黑科技”，是“中集制造”抢占国内冷链市场先机并成为国内客户首选的领先产品。据了解，该产品在3个方面实现了新突破：一是制造方面，采用北美冷藏半挂车跨界设计和多项专利，使用世界领先的 Reefer1.5 数控高压低密度注入式三明治发泡装备，保证了泡体密度均匀和表面平整度，提升了保温性能；二是材料方面，采用

用高强度覆膜镀锌板或铝板作的厢体外板、热塑内板、环保发泡剂、密封胶等环保材料，率先达到了“无味、耐腐蚀”的食品级安全水准；三是智能化方面，融合了智能感应 LED 灯、智能温控风扇、智能温度监测等先进智能技术和专利设计。

舒磊表示，这次交付的产品是总部与企业通力合作，集中研发、生产、销售的优势力量推出的新产品。随着国内医疗及食品领域冷链运输需求的日趋旺盛，预计未来3年，国内冷藏车复合增长率将达到10%~20%，需求量将超过15万辆。我们对自己产品的竞争力充满信心，我们要把更多先进的产品销向全国市场。

（注：本文发表于“中国汽车网”，2017年12月19日）



# 阿里巴巴布局冷链物流，挂车帮优势凸显

□ 龚磊



夏日青岛，绿意盎然，中集车辆（集团）有限公司与阿里巴巴（中国）有限公司将开启“冷链共享”运营模式。2018年4月27日，中集车辆（集团）有限公司控股企业——江苏挂车帮租赁有限公司（简称：挂车帮）与阿里巴巴（中国）有限公司控股企业——上海鲜佳物流科技有限公司（简称：鲜佳）正式达成合作，并举办首批鸿雪系列冷藏半挂车交车仪式。青岛中集冷藏运输设备有限公司总经理王晓毅应邀出席交车仪式。

鲜佳，是一家全国性生鲜冷链物流企业；2018年，其旗下品牌“驯鹿冷链”，将在中国建立50个大中型专业生鲜冷链仓库，布局100条生鲜冷链运输干线、1000条运输支线及冷链短驳，并整合各大生鲜进出口港口资源，携手国内生鲜电商企业，建设完成辐射全国的冷链网络及专业的冷链运营平台。

鲜佳副总裁王坚表示，中集车辆产品技术领先、品质值得信赖，他们为此次合作项目的快速推进感到高兴，合作双方都是很“新”的企业，不仅成立的时间新，其运营模式也充满了新意。他说，选择与挂车帮合作，有助于降低一次性投入成本，同时减小试错风险，更能以轻资产方式快速切入冷链市场，抢占发展先

机。他还说，期待双方今后加强战略沟通，加强密切合作，努力实现双赢。

挂车帮首席运营官何显松强调，挂车帮和鲜佳的合作取得了富有意义的实质进展，挂车帮提供的产品并非市面上随处可见的普通冷藏车，而是汇集了青岛中集冷藏运输设备有限公司等众多兄弟企业的创新智慧，在产品的选型、材料、设计、制造、智能化等方面均领先市上同类产品。与传统冷链运输装备相比，挂车帮交付的这批车均标配智能挂车管理系统，可实时跟踪车辆位置，并自由设定温度上下基准线及报警阈值，用“科技新招”实现货物运输的透明化管理。接下来，双方期待与更多有志于从事或深耕冷链运输的企业，携手开发合作资源，拓展中国及全球市场，推动冷链装备行业健康发展，促进“冷链共享”更好地创造流通新价值。

（注：本文发表于“中国商用车网”，2018年5月16日）



## CIMC | 中集车辆

# 全球专用车行业领跑者



2017年，销售收入达到

# 195.21 亿元人民币

中集车辆(集团)有限公司(简称:“中集车辆”)2002年创立于中国深圳,由中国国际海运集装箱(集团)股份有限公司投资设立;致力于成为值得信赖的半挂车行业世界级领先企业。

中集车辆秉承“为全球道路运输提供可靠、高效的车辆装备,并提供及时、专业的全生命周期服务”的战略使命,经过多年经营,现已形成全系列的物流半挂车及各类专用车产品集群,业务范围遍及全球。截至2017年底,公司总资产已达160.93亿元人民币,净资产70.68亿元人民币;2017年共销售各类半挂车(专用车)16.3万辆,销售收入达到195.21亿元人民币。

中集车辆以全球化战略为核心,倡导“全球营运、地方智慧”的经营理念,充分利用其在管理、技术、品牌和供应链等方面的优势,整合全球资源,实现规模化扩张,致力于构建完善的半挂车全球运营体系。目前,拥有海内外生产基地25个,员工13000人,60%以上的半挂车产品行销美国、英国、欧洲、日本、澳大利亚等国际主流市场,以及中东、东南亚、南美等新兴市场,其生产工艺和产品质量已达到国际领先水平。



中集车辆(集团)有限公司管理团队

## CIMC | VEHICLES

# Global Semi-trailer (Special Vehicle) Industry Leader



In 2017, with sales income of

# \$2.888 billion

CIMC Vehicles (Group) Co., Ltd. (Abbreviation: "CIMC Vehicles") was invested by China International Marine Containers (Group) Co., Ltd in 2002, Shenzhen, China. CIMC Vehicles aimed to become a worldwide leader in trailer industry.

CIMC Vehicles sticks to the strategic mission of "providing reliable and efficient trailers and vehicles for global road transportation as well as timely and professional full-life-cycle services". After years of operation and accumulation, CIMC Vehicles now serves the world with a full range of logistic trailers and a great variety of dedicated vehicles. By the end of 2017, its total assets has reached \$2.462 billion and net asset \$1.081 billion. In 2017, sales of various trailers (special vehicles) were 163,000 units with sales income of \$2.888 billion.

At CIMC Vehicles, our core strategy encompassing "Global Operation, Local Knowledge", along with our advantages in management, technology, branding and supply chain, integrate the expansion of global resources and are indicative of our commitment to building a complete global semi-trailers operation system. At present, CIMC Vehicles boasts 25 production bases and 13,000 employees in the world. More than 60 percent of CIMC trailers are sold in mainstream markets of US, UK, Europe, Japan and Australia, in addition to emerging markets such as the Middle East, Southeast Asia and South America.



Management team of CIMC Vehicles (Group) Co., Ltd.



# CIMC Vehicles Initiate the Solution to Solve the Paint Point of China Refrigerated Trailers

□ Yu Mengjie

"It's always the happiest time for me to deliver new products", said Shu Lei, head of Digital Modeling Design Center, CIMC Vehicle Group. On December 8, 2017, he made that remark when he delivered to customers the initial batch of Golden Brand containers and Greenbody containers and proclaimed those the new refrigerated transport products.

With world-leading technology of modular design and Reefer1.5 foaming process, CIMC Vehicles breaks new ground in refrigerated container development. Due to its lightweight, good thermal insulation, large capacity and long lasting durability, CIMC Vehicles acts as the front-runner in the market of refrigerated transportation equipment.

The future market will be gradually highlighted by containers and trailers. "We should take precautions

to prepare for the next five-year golden development of cold chain", Shu said, "the changes of modular portfolios contribute to the fast switching between Golden Brand skeleton trailer and Golden Brand refrigerated trailers as well as between van truck body and central axle truck body. All these provide more choices for clients."

In recent years, CIMC Vehicles has been devoted to improving independent R&D capacity and production efficiency. CIMC Vehicles has been making technological progress, including establishing committees that incubate new projects, initiating "the Incubation Program of Global Talents Development Program" to attract professional personnel, developing applied technology researches and formulating national and industrial standards to lead industry technology progress.

"As both a pioneer and leader in the field of cold chain infrastructure, our team is so desperate to recruit the talent", said Shen Jianwen, the former Chief Technical Officer of CIMC Vehicles, he said, Shu Lei has been terribly busy over the past half year.

As a project supervisor, Shu Lei has always been engaged in various businesses ranging from project establishment, team building, technical indicators and routes formulation to the project research team cooperating with Qingdao CIMC Reefer Trailer Co., Ltd. and CIMC Vehicles (Shan Dong) Co., Ltd. The team members are selected from its subsidiary employees who are qualified for project requirements through practical exercises. It's their outstanding achievements in research that arouse attention from manufacturers and customers at home and abroad.

With the help of several "black technology", the Golden Brand containers and Greenbody containers have been marked as the preferred commodity for customers and also promoted "Made-by-CIMC" products to seize the opportunities in the domestic market of cold chain. New breakthrough has been achieved in three aspects. Firstly, in terms of manufacture, the products take advantage of crossover designs of North America refrigerated semitrailer and several patents as well as the world's front-runner foaming equipment of Reefer1.5 characterized by numerical control, high pressure

and low density. This equipment contributes to good thermal insulation properties thanks to its foaming average density and surface smoothness. Secondly, as for materials, it is even among the first to reach food safety standards of "odorless and corrosion-resistance" by applying environmental friendly materials, such as high intensity of zinc-coated galvanized sheet or exterior aluminum sheet panel, thermoplastic inner sheet, green-blowing agents and sealants. Thirdly, in terms of intelligence, it boasts advanced intelligent technology and patents, including sensor LED light, temperature control fan and temperature monitoring systems.

With the increasing demand of cold chain transportation services in medical care and food in China, the refrigerated trailers will climb to more than 150,000 with a compound growth rate of between 10% and 20% in the following three years. Shu Lei remarked that the new product was launched due to the cooperation between headquarter and subsidiaries in R&D, production and sales. He added that all members are absolutely confident in the products and devoted to selling more advanced products throughout the country.

December 19, 2017,  
Chinese Automobile Net



# Vanguard Trailer Rental and CIMC Intermodal Work Together in GREE Logistics Business

□ Zhang Pengyun



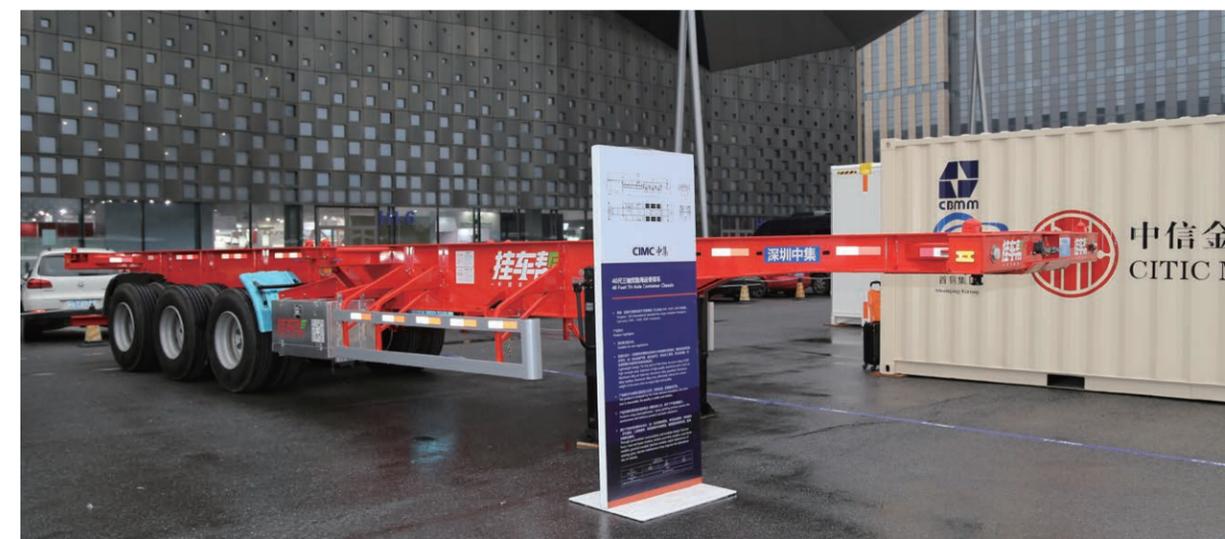
Agreement signed between CIMC and GREE.

A few days ago, the two parties, CIMC Vehicles (Group) Co., Ltd.'s Holding Company – China Jiangsu Vanguard Trailer Rental Co., Ltd. (hereinafter referred to as the "Vanguard Trailer Rental") and CIMC Intermodal Development Co., Ltd. (hereinafter referred to as the "CIMC Intermodal"), undertook the practical business cooperation at the right time, which demonstrates great significance. On the basis of the implementation of the strategic cooperation project between CIMC and GREE, the two companies promoted innovation in intermodal transport of CIMC and made the logistics between railway stations and roads as well as ports "more attractive". This also indicates that the "Double creation" enterprises of CIMC Group seize the opportunity, serve clients' needs and achieve development goals.

Early in 2017, CIMC Intermodal adjusted development strategies rapidly, clarified the "Project System", and set up GREE project group immediately in accordance with the arrangement of Strategic Cooperative Framework

On March 20, 2018, with the chance of Intermodal Asia 2018, CIMC Intermodal reached out to Vanguard Trailer Rental. After consultation and coordination, Vanguard Trailer Rental decided to be the first one to make deployment and reach out and performed well in the strategic cooperation.

On March 29, 2018, Vanguard Trailer Rental dispatched 14 marine chassis to CIMC Intermodal in Zhuhai, a city located in Southern China. The logistics project of "GREE to Zhuhai Port" will be mainly undertaken by the 14 chassis, which also proves that Vanguard Trailer Rental makes new breakthroughs in port logistics besides "drop and pull" transport business. Hunter He, the Trailer Rental's COO, claims that "Our cooperation is standing at a new starting point, with both advantages and challenges, and it is keeping up with market trends."



"The trailer rental business of 'Vanguard Trailer Rental' could help us build transport pool thus to improve operational efficiency and reduce operating cost." said Qiu Chunyou, the General Manager of CIMC Intermodal. "The advanced management philosophy of 'Vanguard Trailer Rental' with clear goals is reliable, and we are excited about our future."

"Informatization is the soul of modern logistics." Nowadays, Vanguard Trailer Rental is committed to strengthening information construction. For example, with the help of internet and big data technology, they establish remote monitoring system for centralized collection, storage, and mining analysis of transportation data of all terminals. Therefore, suggestions are given based on the data in order to manage logistics operations in real time.

"As brother enterprises, we must support each other. Therefore we provide each other with a good service program and favorable price terms, which are difficult

to find on the market." Xiansong He, chief operating officer of "Vanguard Trailer Rental", indicated that the two parties were negotiating a logistics solution with greater cost to make it to a premium quality project, thus to satisfy our customers and make the company profitable.

April 20, 2018, Chinese Net

# Spring of Centre-axle Trailer Car Transporter is Coming

□ Xiao Xianfa



With core manufacturing plants of CIMC promoting innovation of trailer, CIMC Vehicles (Group) Co., Ltd. is going through the high-quality transformation and upgrading the spring of 2018.

On March 28th, 2018, Shenzhen CIMC Vehicle Co., Ltd (SCVC) held an exhibition of car transporter and signed 600 orders with six enterprise users on the spot. According to information provided by SCVC, it launched a series of new centre-axle trailer car transporter which combine cutting-edge technologies of the industry with excellent one-stop services in the exhibition. New products have been recognized by numerous customers in China.

## Adapt to the new regulation: launch brand new centre-axle trailer car transporter

According to related regulations of new edition of GB 1589-2016 《The Limits of Dimensions, Axle Load And Masses for Motor Vehicles, Trailers and Combination Vehicles》 issued in July 2016, “giant monster” (a double-decker side-by-side car transporter) and “large monster” (a dual-deck transporter able to carry cars side-by-side on its upper level and single row on its down level) would be banned from market completely before June 30<sup>th</sup>, 2018. Meanwhile, the regulation gave

birth to new trailer type which meets the requirement – central axle trailer for car transporter (there was no such type in China in the past).

However, over the past year, many vehicle (car) transport enterprises have not purchased and updated with central-axle trailer for car carrier for they doubted about the quality and market of the new-type car with wait-and-see attitudes about new regulation. The exhibition held by SCVC undoubtedly gave the relevant transportation companies a shot.

## Launched high quality centre-axle trailer car transporter: realizing serialization and modularization

According to introduction, the product of the car transport product launched by this exhibition is serialized design. Among them, the mid-axle trailer car transporter products can be divided into 8, 9 and 10 series according to the loading and unloading capacity, and the average loading time within 30 minutes. The high efficiency benefits from modular designs of SCVC for car transporter, such as front column module, rear column module, chassis module, jet pump module and attachment module, thus efficiency and quality of the product are improved.

Qiwen Jiang, President of SCVC Union and chairman of SCVC, said, “SCVC has been committed to providing the best resource and highest standard for car transporter project to offer customers with products of optimal performance and best quality. We are working hard at making it become another hot-sale product of SCVC and making new contribution to China road transportation. The launch of new product is a tribute to our efforts in the past two years and a support for logistics enterprises.”

“Today, the presentation of car transporter aims to offer users access to experience our products on the scene, give a chance for us to bring better-quality car carrier to market and provide reliable equipment and services for the logistics industry,” said Jim Shen, General Manager of SCVC.

## Promote the standardization of the car transport industry: the spring of central axle trailer car transporter is coming

Chun’an Sun, CEO of CIMC Southeast Sales Company, said, Over the past ten years, there have been massive domestic violations against standard of car transporter with a growing number of “giant monster” and “large monster” breaking traffic rules, bringing hazards to traffic security; more than that, the violation has caused a vicious circle of “overload causes the low-price competition, finally hurts the logistics industry” from which every related person suffers. However, with the implementation of new edition of GB 1589, the time to regulate car transporter industry is mature and the spring of central axle car transporter is coming.

Experts predict that the market is huge for 120,000 central axle trailers car transporters are in demand. In fact, compared with traditional car transporter, central axle car semi-transporter has unique advantages in transportation: first of all, it has low chassis and small turning radius which improve the ability of leading vehicle to pull and hang; secondly, its application effectively improve the transportation efficiency, improve safety performance, and save fuel consumption and resources; thirdly, the launch of central axle trailer car transporter would effectively reduce traffic accidents and is meaningful to overloading control.

## Promote special vehicle industry transformation and upgrading: product plus service

How to become invincible in the market? The answers from SCVC let the products speak for itself. According to information provided by SCVC, with principle of “producing trailers by means of producing cars”, it has applied new technologies such as laser cutting, robot welding, electrophoretic painting and trailer systems to production, which is also the basis of its long-term dominant position in industry. With the use of KTL cathaphoresis plus environment friendly powder coating, “or car transporter, it’s time to say goodbye to the rusty water” and SCVC has been implementing the ideal technology.

“Rusty water and smudges are the biggest threat to us with products we transport being high-end brands. And this is the reason why I make high demand for the product quality. After understanding and investigating advanced technology of SCVC, we believed that their products have excellent corrosion resistance, attractive appearance and good cost performance. Besides, products of SCVC not only meet our expectations about anti-corrosion and rust protection of car transporters but also match with the concept of green logistics we advocated. As a result, we have purchased two batches of their car trailers successively,” said Yuan Haibo, a customer of SCVC and Vice General Manager of Chongqing Huamao Electromechanical Equipment Co., Ltd.

In addition to high-quality and eco-friendly products, SCVC also provides various customer solutions for customers to meet their needs. Many brands benefit from customized services of SCVC, such as GAC HINO MOTORS, DONG FENG TRUCKS, SAIC-IVECO HONGYAN, DONGFENGLIUZHOU MOTOR, FAW JIEFANG and FOTON AUMAN. Meanwhile, CIMC Capital Co., Ltd. also provides one-stop services of “equipment plus finance plus service” for major customers as well as over a thousand types of financing services of heavy truck and trailers to resolve customers’ financial needs.

Benefiting from the quality products and services of SCVC for a long time, Li Yong, the General Manager of Guangzhou Hino Motors Co., Ltd., attended the exhibition of new car transporter product, and indicated that he was excited about the cooperation with SCVC. “The implementation of the new policy will definitely bring about changes in market demand. SCVC is always our strategic partner and we believe that the Hino’s 700 Centre-axle car trailer transporter is competitive in the market. There is no doubt that our future will be brighter and better.” In addition, since the beginning of 2017, CIMC Vehicles has offered 5,000 Central axle car trailer transporter to their customers characterized by quality products and services. The company not only achieves sales growth but also promotes transformation and upgrading of special vehicle industry.

Commercial Vehicle Magazine, No. 5, 2018



# CIMC Vehicles' Refrigerated Trailer Unveiled to Meet Market Demand

□ Ning Wenxiang

On February 2nd, 2018, CIMC Vehicles Group Co., Ltd held an "Acceptance Ceremony for the Project of Greenbody" in Jinan, Shandong Province. Greenbody is a new product developed independently by CIMC Vehicles and the latest research achievement in the domestic manufacturing sector of the new-generation refrigerated trailers, thus possessing important theoretical and practical values.

## Greenbody refrigerated trailer: CIMC Vehicles contributing to promote green manufacturing

Greenbody is a brand-new refrigerated trailer jointly developed by CIMC Vehicles and its two subsidiaries, Qingdao CIMC Reefer Trailer Co., Ltd. and CIMC Vehicles Shandong Co., Ltd. It is a final product of 2017 R&D project carried by CIMC Vehicles.

Greenbody, as the name suggests, is a green product. The industry's leading foam equipment is introduced with 245Fa and Cyclopentane as foaming agents to construct panels for refrigerated bodies. Compared with the traditional foaming process, the brand new one produces no harmful gases after foaming, which is in line with the country's current requirements for green manufacturing.

The brand-new refrigerated trailer is 9.6 meters long and has a pleasant appearance, covered with a metal skin whose surface is quite smooth. Removing the marks of the stiffening rib, it shows European and American style. In terms of performance, insulation performance is one of the most important features of the refrigerated trailer. Greenbody refrigerated trailer has been tested and proved to have good insulation performance with its heat transfer coefficient lower than 0.38W/m<sup>2</sup>.K. The bottom panel of Greenbody uses the whole aluminum guide rail to splice with seam welding. At the same

time, wear plates made of aluminum are welded with aluminum guide rails. It can ensure, to a maximum extent, the water resistance of the compartment, thus ensuring the safety of the cargoes.

"We will manufacture what the market desperately needs." Jim Shen, the former CTO of CIMC Vehicles, said that the product's unique performance will certainly advance the development of cold chain transportation logistics industry.

## Centre-axle trailer with shade compartments: Introducing European and American manufacturing concepts

As the standard GB1589-2016 is implemented, centre-axle car trailer has become a hot topic and many companies have focused on centre-axle freight trains. A popular mode of transportation in Europe and the United States is used in CIMC Vehicles Shandong Co., Ltd., owned by CIMC Vehicles. The year 2017 witnessed the launch of the first centre-axle freight train and an annual market share of 95%. CIMC Vehicles is leading the transformation and development of this transportation model. Greenbody project carried by CIMC Vehicles includes not only refrigerated trailer but also centre-axle trailers with shade compartments. Combining the centre-axle trailer with the refrigerated trailer described above can improve the efficiency of transportation.

This centre-axle trailer with shade compartments is mainly suitable for the transportation of bulk goods, luggage and home appliances, etc, especially for the transportation of those products with requirements for ambient temperature in summer and winter such as bottled wine, beverages, dairy products and fruits and vegetables.

This vehicle has better insulation performance than the market's mainstream corrugated and wooden box bodies. The design of this trailer has been upgraded based on advanced manufacturing concepts of Europe and the United States and the relevant vehicle models, and the length of its axle base is changed from the common 1,310mm to 1,500mm, making the trailer more efficient. The supporting leg of the tow bar, developed jointly with the tow bar manufacturer, features light weight and high efficiency.

## Reporter observation: from a point to a plane

Greenbody project of CIMC Vehicles, based on Reefer1.5 advanced foaming panel construction process and design mathematical modeling techniques, aims to develop a refrigerated compartment which can lead China's development

in the next five years. CIMC Vehicles is working to develop new products with internal coordination and complementary advantages, and share the fruits of development. We believe that single efforts for development can be replaced by coordinated efforts and separated advantages can be changed into integrated resources. CIMC Vehicles sowed many seeds of creation in 2017 and it is expected to have a sea of flowers in 2018.

Special Purpose Vehicle Magazine, No. 2, 2018





other self-built sewage treatment station and is discharged to the environment when the treated water meets Class IV water quality standard.

According to Dr. Derek Li, the head of Light Tower Project, modularized industrial design, automatic instrument equipment and information system connecting these two parts are the three pillars underpinning Light Tower Factory. "Briefly, we need to completely understand the manufacturing of semitrailers, and then design different modules to meet the needs of all kinds of products." Derek Li said. At present, CIMC has initially developed modular design for 8 sets of products, which could basically meet the needs of all skeletal trailer in the American market.

"The Machine could help people to remain experience and regularize production flow, unshackling workmen from dangerous and cumbersome work." Doctor Li remarked, the whole factory just like a transparent, automatic and digital workshop, and you can get all the production processes from the manager's computer. Any existing problem could be traced back to the source clearly and solved in time.

David Li showed that the Light Tower Factory could resolve many tricky problems existing in CIMC, such as labor shortage, environment protection pressure and employee career development. The factory also adopts many cutting edge technics, which creates more jobs for "blue collars", helping them become "white collars". "Actually, nearly all the Chinese enterprises have faced the same problems as what we have mentioned. But digital module can quicken the iteration of design in the future, making it easier for crossover design and inter-continental manufacturing."

### Aiming at future incremental markets and building a global operating platform

Since July 2016, products manufactured in Light Tower Factory have been sold to the US incessantly. And many Americans and Japanese worshipping technology also come to visit the factory. In 2016, CIMC Vehicles invested RMB238 million (about USD36.6 millions) in R&D altogether, and at the end of 2016, CIMC (China) had got a total of 826 pieces of patents since its founding, including 216 patents of invention.

Although having scored fruitful achievements, CIMC Vehicles does not satisfy what it has achieved. Jiang Qiwen, the President of SCVC Union, said, "America is merely an established business market. What Light Tower Factory aimed at is the market of incremental business in the future, which includes not only the Euro-market which features the strictest standard, but a broader global market."

Facing the reporters of South Daily, David Li said, if we want to achieve the goal, "three treasures" are necessary and essential. They are the global supply chain, crossover design and inter-continental manufacturing.

"What we are going to do is to optimize the global operating efficiency and develop crossover design, during which, undoubtedly, we will continue to rely on the global supply chain based on Chain's manufacturing, and make the best of the global manufacturing network and global shipping." David Li said. When referred to the products of CIMC Vehicles, he even takes an example to prove that not all the products sold in America are manufactured in America. "Maybe most parts of the components are manufactured in China, and then they are shipped to

America and assembled to the whole vehicle."

It is commonly agreed that if a company wants to remain sustainable and keep prosperous, it has to lay emphasis on the positive policy of global operation, and merger and acquisition are not the long-term strategies. According to David Li, global operation not only exists geographically, but serves as a superior method to allocate the whole global resources at the higher stage of globalization of the company. We can conclude it as "Global Operation & Local Knowledge".

David Li also remarked that "Actually, the global operation of CIMC refers to integrating all resources to enhance the market position, and then play the advantages of unified collaboration. Taking the purchasing of core components of CIMC Vehicles as an example, CIMC propose to connect with the suppliers of its global supply chain centrally, thereby achieving an agreement on price reduction. The local knowledge means the key management teams of CIMC overseas are mainly local staffs, which give full play to local business advantages."

December 6, 2017, Nanfang Daily

# How CIMC Become a Leader in the World?

□ Su Ziwei Dai Xiaoxiao

Today, anyone who happens to stop in the street of America, England, Netherlands, Belgium, Japan, or Australia will see trailers with a logo of CIMC whiz by. Headquartered in Shekou, Shenzhen, Guangdong Province, China International Marine Containers (CIMC) is regarded as a "hidden champion" in the trailer field.

Two months ago, CIMC celebrated its 35<sup>th</sup> anniversary with an average annual output of RMB60 billion. As the world's biggest manufacturer and seller of containers, it has been ranking the first place for 20 consecutive years. But CIMC manufactures more than containers. It has achieved industrial upgrading from simple manufacture to system integration and broadened its business from containers to eight fields such as, vehicle, energy, chemical and food equipment, offshore and so on. Besides, CIMC also takes the lead in several global transportation equipment fields like land transportation vehicles and Passenger Boarding Bridges (PBB).

Over the years, CIMC has grown from a newcomer into an industrial leader in field of road transportation industry. Starting from scratch, how does CIMC maintain its market status and make continuous innovation? Reporters of Nanfang Daily visited CIMC and tried to unravel the mysteries behind the Group.

## Containers on wheels promote upgrading of Chinese logistics vehicles

CIMC containers, one of the business segments, went through a slowdown in 2016 as a result of business cycle. Meanwhile, with a long-term stable growth, CIMC Vehicles made the most profits, ensuring that CIMC had been profitable for 23 consecutive years. In the first three quarters of 2017, the road transportation vehicle business of CIMC maintained its rapid growth and brought RMB14.655 billion in revenue, increasing 40 percent year-on-year.

CIMC's move into trailer industry can be traced back to 1999. Mr. Mai Boliang, CEO and President of CIMC, spent his Spring Festival holiday in Australia. Occasionally, he came across van trailers running along the highways which shared similar

appearance with containers. These van trailers were like "containers on wheels". "They look nice and safe and they are in striking contrast to domestic freight cars whose goods are often scattered in the highways. We should introduce the advanced logistics vehicles from Europe and America into China and sell Chinese equipment overseas."

Mr. Mai Boliang was concerned about the poor logistics performance in China and he hoped to change this situation through intermodal transportation and standard logistics. Vehicle equipment manufacturing is an appropriate choice for him. Every time when CIMC enters a new segmented market, it follows a strategy: seize the opportunity and achieve a quick market entry by acquiring most advanced companies in this industry.

CIMC Vehicles Group Co., Ltd. (CIMC Vehicles) was founded in 2002. At first, it adopted a strategy of targeting simultaneously markets both at home and abroad. Since 2003, the newly-built CIMC Vehicles had successively acquired a number of major players in domestic special purpose vehicle industry, including Yangzhou Tonghua Special Vehicles (THT) and Zhumadian Huajun Vehicles. In the same year, CIMC acquired and restructured Vanguard in the USA, marking the formal start of CIMC vehicles' access to overseas market and promoting its global business layout.

CIMC Vehicles soon achieved a strategic business expansion due to the relatively conservative development of its competitors. In 2007, the production capacity and scale of CIMC Vehicles ranked first in the world. June 2016, CIMC Vehicles solely took over the Retlan Manufacturing Limited ("Retlan Group"), a UK's leading trailer manufacturer. Because of this deal, CIMC Vehicles was able to extend its reach into the UK's trailer market and expand its business into Europe.

According to ACT Research, an authoritative industry consulting agency in the United States, CIMC Vehicles claimed the lion's share of global trailer market in 2015. Even in European and American markets featuring intense competition and high demands for quality, its market share also ranked top three and top

five respectively. Currently, the annual sales volume of CIMC Vehicles exceeds 120,000 units, accounting for more than 10 percent of the global market share. It has ranked first in the world for three consecutive years, according to a well-informed source of CIMC.

After a rapid business expansion and development, CIMC Vehicles confronts a problem: its revenue continues to rise and reaches its peak in 2011. Next it may have a downward trend. "We hope to increase production efficiency and capacity, and capture more market share without any increase in personnel." David Li says, CEO and President of CIMC Vehicles. He also told reporters that digital upgrading is imperative and CIMC hopes to create a digital factory by using digital modeling, automated production, and manufacturing execution system to realize all-round intelligent manufacturing.

## "Light Tower Factory" increases production line efficiency by 40 percent

In a clean and modern factory, IoT automated equipment can be seen everywhere. Equipment for cutting, feeding and unloading, welding, and spraying required for trailer manufacture has achieved interconnection. All equipment can complete a series of production actions according to the instructions received from the Internet, and can provide prompt feedback on their production status.

This is what reporters see in the world's most advanced trailer component factory which is built in Dongguan,

Guangdong Province by CIMC. It also has a nice name – "Light Tower Factory." CIMC Vehicles, one of the CIMC's subsidiaries, built this new factory in order to keep abreast of national strategies and world trends and explore automated and digital production modes.

A semitrailer's parts and components produced in a modular way will be shipped to different places for assembly according to the needs of the global market. CIMC Intermodal Equipment's (CIE) CEO Frank Sonzala always says this to customers, "Look, the products from CIMC Light Tower Factory outshine its counterparts in cutting precision, smoothness of surface paint, and warranty period."

Light Tower Factory started from the Light Tower Project in 2014 and was completed and began trial production in July 2016. It is an important advanced parts and components production base for CIMC Vehicles. Light Tower Factory has industry-leading production lines and cutting-edge technologies, making its production efficiency increase by 40 percent, according to Gao Chengwen, General Manager of Dongguan CIMC Vehicle Co. Ltd.

Reporters also see a fish pond outside the Light Tower Factory. There are over ten goldfish swimming in the clear water, which is actually waste water discharged from the factory. What can make this happen? Mr. Gao tells the reporters that the heavy metals-containing waste water can be recycled after being processed by the self-built sewage treatment station, achieving zero emissions of VOCs (volatile organic compounds). Wastewater without heavy metals is treated by the



# Chinese Investment Brings New Vitality to a Small U.S. Town

□ Li Ming, Yuan Yue, Wang Naishui

In 2017, James Wilkerson, 58, an employee at a trailer factory in Monon, Indiana, the U.S. for over 30 years, has witnessed the vicissitudes of the trailer industry, as well as how a Chinese enterprise rejuvenated the town of America's Midwest.

Located in northwest Indiana, Monon County is 160 km away from Chicago, the third largest city in the country, and it impresses the nearby dwellers with "discarded railway tracks", "huge tracts of cornland", and "the trailer factory".

Monon was once a brilliant regional transportation hub from the mid-1890s to 1920s along with the emerging trailer industry. In its best years, a trailer company named "HPA Monon" employed over 400 workers, accounting for one third of the town's population, and sustained the livelihood of hundreds of households.

However, the economic recession in America in the late 1990s in 20<sup>th</sup> century was severe to the point where HPA Monon, like thousands of other Midwest enterprises, had to slash production, downsize, and finally shut off entirely in 2000.

"Out of work, many families moved away. And in the following two years, none was at the empty factory area", recalled Wilkerson.

"Then came the CIMC," he said.

In the summer of 2013, China International Marine Containers (CIMC) with its headquarters located in Shenzhen of China came to town and acquired the bankrupted HPA Monon. In the following years, the CIMC, ambitious in expanding overseas market, restored electricity, reset production line, recruited

local employees, and established the Vanguard National Trailer Corporation, a wholly owned subsidiary of CIMC, without any delay. Wilkerson joined Vanguard trailer factory together with other more than 20 senior staff members from HPA Monon. He never expected that it would turn out to be a Chinese enterprise thousands of miles away that resurrected the town's trailer industry.

"At the very beginning, we had only fewer than 40 employees. But soon we had more business and more orders, and we've got over 400 workers, just like before", Wilkerson told Xinhua Net.

During the past 14 years, starting with small business, Vanguard has developed to today's position that its product occupation ranked fourth in America, and meanwhile Wilkerson is now a person in charge of the factory's production line from a worker.

The prosperity of the Vanguard trailer factory brought people hope again and brought long-lost vitality to the town. According to local officials, the Vanguard's annual value of production accounted for over 80% of that of the whole town in recent years.

"Vanguard is of great significance to Monon. Almost every family and every household has a member who works in the factory. The taxes that Vanguard trailer factory paid underpin the town's most important public facilities, such as schools and hospitals," said Randy Mitchell, president of the White County Economic Development Organization.

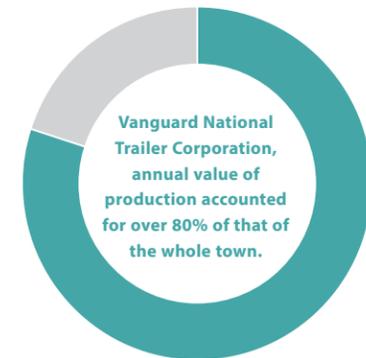
Mitchell told Xinhua Net that the Vanguard's success made him realize the importance of Chinese investment in the development of White County. In 2017, he led a delegation to China for the first time,

signed a Cooperation Agreement with its friendly exchange city of Funing County, Jiangsu, marking its prologue to more mutual benefit and cooperation with China.

Vanguard CEO Charlie Mudd reckons that the factory's success lies in the Chinese enterprise's respect for the American market and local culture. "It's an enterprise invested by China but run by Americans".

"China and America complement each other's advantages. The Chinese enterprise has been well integrated into the local community, which can be considered a real sense of cooperation," Mudd supplemented.

Monon County also records the entry of this Chinese enterprise in its own way. In the restaurant of train museum of which locals feel proud, the train models representing the town's glorious history is dazzling. One of the most eye-catching of which is nothing



better than a train shuttling back and forth above dining tables, its locomotive pulling a white container vehicle model with its body bearing the emblazoned word "Vanguard".

November 13, 2017, Xinhua Net



# 2018 CIMC Vehicles Annual Trailer Seminar Held in the U.S.

□ Gan Yingxin



South Gate, CA – The greatest minds in intermodal transportation met May 8-10, 2018 in Manhattan Beach, CA to attend the CIMC Vehicle Annual Trailer Seminar hosted by CIMC Intermodal Equipment. Over 200 industry representatives of cooperative partners in the semitrailer industry from China and 15 foreign countries attended the seminar on invitation.

David Li, CEO and of President of CIMC Vehicles, attended the opening ceremony and delivered a keynote speech entitled "Creating the Global Trailer Operating System 2.0" in English. His wise speech in a strong voice not only provides direction to and boosts confidence of the global trailer development, but also earns CIMC the respect of global industry partners and wins acclaim from international media.

The internet has changed the speed of life, and globalization has brought both infinite opportunities and huge challenges. Thus, this year's seminar theme of One Team One Dream: Connectivity in the Era of Globalization sought to discern the influence of new technologies and how improved connectivity must be utilized for continued growth and understanding of the intersecting roles of manufacturer, supplier and customer in order to continue to create revolutionary products that meet customers changing needs.

Speakers for the event included David Li, general manager of CIMC Vehicle, Dave Manning, chairman of ATA, and Jeff Walker, CEO of CIMC Capital. Panel discussions covering topics of Embracing Technology as a Tool led by Frank Sonzala, president/

CEO of CIMC Intermodal Equipment and Global Trailer Designs led by Charlie Mudd, president/CEO of Vanguard National Trailer were instrumental in delving further into the constantly evolving intermodal industry.

CIMC Vehicles has embarked on the preparation and organization of the first CIMC Vehicle Annual Trailer Seminar since 2004. After 14 years of strenuous efforts, it has now developed the seminar into a great event in the global semitrailer industry, which offers a significant window for exchange enhancing the global industry's knowledge of trailer development in China and facilitating "Made-in-China" enterprises to go global.



Chinese Investment Brings New Vitality to a Small U.S. Town

Xinhua Net

How CIMC Become a Leader in the World?

Nanfang Daily

CIMC Vehicles' Refrigerated Trailer Unveiled to Meet Market Demand

Special Purpose Vehicle Magazine

Spring of Centre-axle Trailer Car Transporter is Coming

Commercial Vehicle Magazine

Vanguard Trailer Rental and CIMC Intermodal Work Together in GREE Logistics Business

Chinese Net

CIMC Vehicles Initiate the Solution to Solve the Pain Point of China Refrigerated Trailers

Chinese Automobile Net

Alibaba Devoted to Cold Chain Logistics Layouts, Vanguard Trailer Rental Stands Out

Chinese Commercial Vehicle Net

At the same time, the light tower project of CIMC Vehicles is gradually upgraded. If the Dongguan factory is version 1.0, the light tower factory of CIMC Huajun and CIMC Tonghua are version 2.0. CIMC Huajun focuses on the direction of intelligent manufacturing, and CIMC Tonghua extends to the field of digitalized workshops. CIMC Vehicles also gives a meaningful name to the digitalized teaching workshop of CIMC Tonghua: Magellan. This means that after the Dongguan light tower factory knows the direction of digitalization, it has to sail through the wind and waves to achieve more unknown results.

The light tower factory has achieved great success in Dongguan. Why do they have to do pioneering things in CIMC Huajun and CIMC Tonghua? Jim Shen stated that unlike Dongguan factory, several other light tower factories are engaged in construction and are busy with production at the same time. What General Manager David Li means is that maintenance is performed on a flying aircraft. Therefore, it is necessary for these companies to convert production efficiency into economic benefits as soon as possible.

As CIMC Tonghua and CIMC Huajun are different in the market and product layout, the specific decomposition technology is different. Because the Dongguan light tower factory already has a digital basis, which is still not perfect during the intelligent development. Jim Shen stated that the Light Tower Project has invested hundreds of millions of yuan, and the costs of exploration are high. However, the less-

invested teaching workshop is more like a laboratory, which can conduct various experiments and bear the risks of various errors of experiments. Decomposition techniques are verified in different factories. The successful ones should be replicated.

The Light Tower Project is currently suitable for mass-produced and standardized trailer products. However, many companies owned by CIMC Vehicles have a large number of special vehicle products. These products are not suitable for the Light Tower Project, so how can we do? Jim Shen stated that whether the Light Tower Project can be applied by subordinate enterprises depends entirely on the enterprise itself. It is like saying that whether you want to be a general practitioner or a specialist practitioner depends on yourself. At present, there are no absolute general practitioners but only absolute specialist practitioners. CIMC Vehicles is a complete enterprise. In this case, CIMC Vehicles has a general technology route, which means each company needs to work hard themselves. Therefore, the Light Tower Project is not imposed by CIMC Vehicles on subordinate enterprises. But rather, an enterprise should make choices according to its own product structure. Of course, the investment on Light Tower Project is huge. It is not simply a profitable product, but a product related to the survival of enterprises. Do they like to upgrade technology? Do they have the capacity to do so? At first, it is necessary to develop the capacity and then the operation will be easy.

"From the Light Tower factory in Dongguan to the Magellan Project in Yangzhou to the Huajun Light Tower Project in Zhumadian, it shows that the innovation of CIMC Vehicles is constantly being upgraded." During an exclusive media interview at the China International Commercial Vehicles Show in 2017, David Li said to the correspondent that transformation and upgrading is the path enterprises must take for survival and development, and the manufacturing of special vehicles must also enter a new era. I assume that 20-30 companies will become the core team in domestic special vehicle industry in the next five years. However, I think our practice can provide a reference for the industry from three points: firstly, the traditional manufacturing industry can be transformed and upgraded successfully; secondly, the replicability of innovative projects has been further verified; thirdly, in terms of transformation and upgrading, we should first prepare for innovation in organization, attain freedom from the restraint of traditional cultural factors, and concentrate our efforts on talent cultivation. If we don't do a solid job, we will probably spend a lot of money to buy a lesson from a failure.

There are already three light tower factories under construction by CIMC Vehicles. Will there be new player joining them in the future? "We also need to compete internally. If you don't work hard, no one can guarantee that you can go up to a new level." Jim Shen said that three are just today's figure. He believes that with the power of these three examples, there will be more enterprises accumulating strength to reach this level.



# Ping An Capital Becomes the Second Largest Shareholder of CIMC Vehicles

□ Gan Yingxin



On December 18, 2017, Ping An Capital completed the transfer of 10.77% shares of CIMC Vehicles by investing RMB818 million, and this transaction marked a major breakthrough of Ping An Capital in the mixed ownership reform of state-owned enterprises.

CIMC Vehicles was established in 2002. The controlling shareholder of CIMC Vehicles – CIMC is supervised by the State-owned Assets Supervision and Administration Committee of the State Council. As a trailer and special purpose vehicle manufacturer with the largest sales volume in the world, CIMC Vehicles, which occupies 25% of Chinese market share and 10.5% of global market share, has 28 production bases worldwide and over 400 sales outlets in 45 countries.

In order to improve the market competitiveness of the company and the operation efficiency of state-owned assets, and to enrich the board resources and optimize the governance structure, CIMC Vehicles had already introduced

strategic investors such as Ping An Capital, Sumitomo, and Nanshan as early as November 2015. At that time, Ping An Capital obtained 16.8% equities of CIMC Vehicles by increasing capital of RMB1.09 billion.

After the completion of the first capital increase by Ping An, CIMC Vehicles utilized the funds from capital increase to acquire SDC in 2015, the largest trailer manufacturer in the UK occupying 38% of the UK market share to bolster its weakness in terms of the European market in the global operation layout of CIMC Vehicles, and further consolidate its first position in the industry around the world. By relying on the globalization strategy and seizing the opportunity of short-term segment market, CIMC Vehicles obtained a better operating performance. By the end of 2017, its total assets has reached \$2.462 billion and net asset \$1.081 billion. In 2017, sales of various trailers (special vehicles) were 163,000 units with sales income of \$2.888 billion.

After the two investments, Ping An Capital held a total of about 27.6% equities of CIMC Vehicles, and became its second largest shareholder. This marked a substantial step made by Ping An Capital in mixed ownership reform pilots in the new round of state enterprise reform of state-owned assets system, and was of great significance for Ping An to participate in the state enterprise reform. Meanwhile, this was also an important practice of Ping An & CIMC Vehicles in participating in major national strategies such as "The Belt and Road" Initiative and "Made in China 2025".

development, and the inability to improve quality and achieve strategic goals.

In light of the above analysis, the CIMC Vehicles' "Light Tower Project" team believes that it is now the best time for Dongguan light tower factory to fully introduce the development of digital product and data management platforms.

With the in-depth and solid investigation in the early stage, the blueprint of Dongguan light tower factory has gradually become clear. In the team's original intention, Dongguan light tower project was a plant that produces parts and components for global supply and produces them of a complete vehicle in a modular manner. With the advancement of the project, this project with hundreds of millions yuan of investments will bring the CIMC Vehicles' technology team to a higher level of consideration in the aspect of modular industrial design, automated object-connected equipment and information systems, and engender the planning of the entire Dongguan light tower factory. The whole production processes are clear at the manager's computer, and if there are any problems in the production process, they can be clearly traced. Solutions can be found, and a fully transparent automated, digitalized teaching workshop can be built.

Therefore, the Dongguan light tower factory is closely centered around the R&D main line of products and uses information integration as a technical means to build a unified digitalized

platform for the entire life cycle of the product that is suitable for the characteristics of Dongguan light tower factory in order to realize the effective integration and management of data information in the R&D process. Then, to build a collaborative design and manufacturing system under the platform, achieve efficient operation mode and management and control of R&D of products, further enhancing the management capability, design capability, process capability, manufacturing capability, collaboration efficiency and rapid response capability of the entire R&D and increasing the core competitiveness.

In May 2014, the Dongguan light tower factory obtained the right to use the land for the first phase. In April 2015, the first phase of the factory construction officially started. In July 2016, the factory was built for trial production, and on the September 22 of that year, the 35th anniversary when CIMC is put into production was made public for the first time: fully automatic cutting, loading, unloading, welding, and spraying. Few workers could not be seen in a huge factory. Everything was in full swing. Whether it is cutting accuracy, wear resistance of oil paint, or the smoothness of the surface of products, which won a lot of praise. In this factory, about 45% of the workforce is replaced, and the standardization of the process and the precision of the products are higher than that made by hand. The efficiency of production is increased by 66%, and the efficiency of logistics is increased by 90%. For the current labor-



The efficiency of production is increased by **66%**

The efficiency of logistics is increased by **90%**



intensive special vehicle industry, it is indeed a huge transformation.

### With multiple projects, Dongguan Light Tower Factory is expected to overturn the production mode of special vehicle industry

After the Dongguan light tower factory was put into operation in July 2016, it was at a time when the US trailer industry was in a cyclical downward phase. The opening of the Dongguan light power factory resulted in significant decline in the labor cost and elevating material utilization, reduction of costs, and it supported CIMC Vehicles to enter the US market with a dramatic increase of profits.

According to Gao Chengwen, the general manager of Dongguan light tower factory, the cost of a single vehicle at the Dongguan light tower project was reduced by RMB1,000 compared to the overall traditional manufacturing cost. It is also due to the commissioning of the Dongguan factory that the SCVC was spared the impact of the trend of environmental protection on the special vehicle industry in the second half of 2016. He said that if the Dongguan light tower factory starts half of a year later, CIMC Vehicles will earn RMB130 million less.

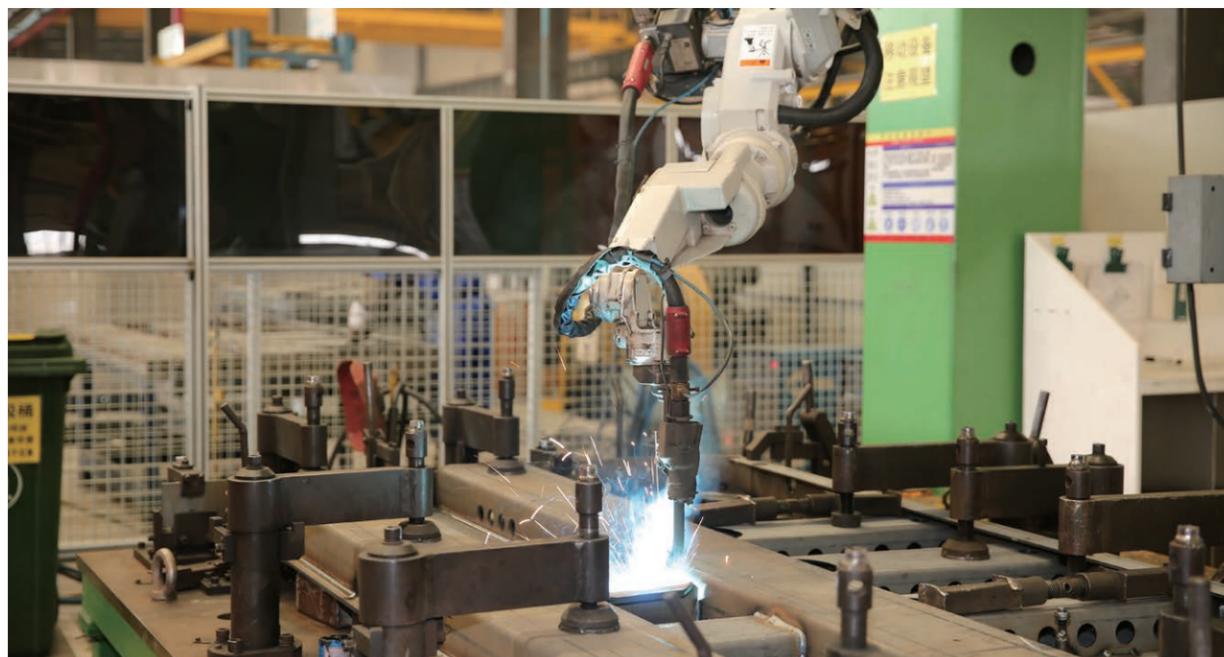
At the same time, the project not only provided technical upgrading routes for

subordinate enterprises of CIMC Vehicles, but also became a talent incubator for subordinate enterprises. At the beginning of the implementation of the project, David Li required: "Our technical team must not only offer questions, but also cultivate talents. Those with technical background and expertise should engage in all aspects of the business to promote vehicle business to develop faster and better." As the general commander of the Light Tower Project, Jim Shen compares the relationship between the CIMC Vehicles technical team and the subordinate enterprises as the relationship between Party A and Party B. The two parties are in an equal partnership. The headquarters of CIMC Vehicles sends technical elites to guide the enterprises. When completed, these personnel will all return to the headquarters. This approach can not only make full use of the advantages of the technical team, but also promote the sharing of technology so that the technical team can have enough practice. The most important thing is to support to effectively put into work the technological strategy.

"Nowadays, the exchanges at technical level between CIMC Vehicles and its subordinate enterprises are more frequent and pragmatic and become more helpful to enterprises." One employee at the middle level of the subordinate of CIMC Vehicles, who remains anonymous, revealed that it is difficult to manage special vehicle industry like a conglomeration. CIMC Vehicles wants to transfer a lot of foreign experience and technology to China, but they turn out to be "impractical".

Today, CIMC Vehicles is trying to have a paid sharing mechanism to break the blockages and obstacles among various companies. On the basis of long-term cooperation, they emphasize the equivalence of responsibility, power, and interest. To pay for a new technology is the enterprise's recognition of the value of it. After the company has placed an order, the principles of cooperation between the two parties will be settled in a contractual manner to achieve a win-win situation. In 2015, CIMC Vehicles implemented the "Picking three out of five" adopted from Tian Ji's Horse Racing Strategy for the first time on the automotive haulage and entrusted the application of new technologies to Tonghua, the most resourceful one in Yangzhou. Subsequently, information was also transmitted to other companies: Whoever wants this new technology can use it for a fee. Jim Shen said: "The headquarters does not want to make money in this way, but want to set a guide to encourage a culture of respecting knowledge and encouraging innovation."

The success of the Dongguan light tower factory also gave the managerial level of CIMC Vehicles great confidence. In 2017, the Board of Directors of CIMC Vehicles approved another RMB600 million investment and established lighthouse factories in Yangzhou, Zhumadian and Pingshan. Unlike Dongguan light tower factory which focuses on the North American market, Yangzhou Tonghua and CIMC Huajun light tower factory focus more on emerging and domestic markets.





CIMC Vehicles dispatched 11 key personnel to LAG to learn the whole manufacturing process, equipment technology, quality control, factory operations and so on. After returning home, it cost RMB30 million to build the LAG #2 line in SCVC. However, this copy of Europe's production line has not been operated too long before it became unacclimatized to China's environment.

Due to the high technical standards in Europe and high cost of processing, some equipment needs hundreds of thousands of euros to buy. Due to the cost, SCVC adopted domestic equipment, and used self-modifying methods to replace some European equipment. In this way, the accuracy and quality of the manufactured components cannot be precisely matched with the components of LAG. Reworking will in turn lead to inefficiencies and the increases of cost. On the other hand, as domestic manufacturing levels and raw material supply are difficult to meet European standards, many raw materials and accessories need to be imported from Europe, which increased the costs. SCVC's LAG #2 line was later converted to make other products, and LAG also gradually gave up the non-profitable businesses, preserving only the core tanker business. The CIMC Vehicles' attempt to replicate European technology ended with disappointment.

In 2011, in response to the failure of LAG #2, CIMC Vehicles started the BSG project for the purpose of entering Germany in March that year. In July, the company adopted the technology of "black brand vehicles" and "silver brand vehicles" for the domestic market, by implementing pilot projects both internationally and domestically. The BSG project used German equipment and technology and mainly focused on flatbed trailer, side curtain trailer and reefer trailer. The technology of "black brand vehicles" and "silver brand vehicles" was adopted by the technical team of CIMC Vehicles' headquarter after it attained a new understanding of the modular concept of BSG, designed a standard drawing for the promotion and exploration of realizing technical standardization in China. In July 2011, the black brand vehicles project was launched. The main models were skeleton trailer, flatbed trailer and side curtain trailer. The production line was built in CIMC Dongyue. In August 2012, the silver brand vehicles project was launched, mainly focusing on van trailers for the Chinese cold-chain transport market. The production line was built in CIMC Qingdao. Due to the long operating chain and high cost of the entire operation chain and lack of a say in the efficient management of the corporation, the BSG project ended up in failure after three years.

Having experienced four ups and downs, from

CIMC Tonghua and LAG's cooperation to the transformation of domestic production lines, to the introduction of LAG foreign production lines to be applied in SCVC, to the obstacles faced by BSG project and the project of "black brand vehicles" and "silver brand vehicles", although CIMC Vehicles repeatedly failed, for CIMC Vehicles, the technology upgrade has been inspiring. In particular, the BSG project has enabled CIMC to start accessing the "third-generation technology" of trailer manufacturing, namely, "design modularity, production cycle, and flexible production management". And it also gets a new understanding of technological upgrading: The introduction of European technology and products should not be partial, but should be introduced from design, production, services, etc. in all dimensions based on a specific analysis of China's national conditions. This is the prototype of the CIMC's "Light Tower Project".

The projects of "black brand vehicles" and "silver brand vehicles" in China were also suspended because of the country's losing control over overloading and the high cost of market competition.

## Based on the national conditions, we launched a "CIMC plan" for the technology upgrades of special vehicles

In January 2014, the "Light Tower Project" with the goal of exploring a sample of digital factories was officially launched. The entire planning cycle lasted more than a year and it took a year to build the factory. Before the factory was built, CIMC vehicles had full confidence in the entire project. This self-confidence stemmed from two aspects: On the one hand, the "third-generation technology" of producing trailers was born out of the current production process of passenger vehicles with advanced manufacturing of parts and components as the core. Geely, BYD and other companies have already used it on a large scale. On the other hand, these technologies are not new technologies, so the investment is risk free.

In the conception of CIMC Vehicles' managers, the core of the "Light Tower Project" is "to produce trailers in a way how automobiles are produced." The three pillars around this core are "modular product design", "automated object-connected equipment", and "information systems" that connect the former two. If we only made small steps in the previous exploration, the Light Tower Project is a systematic large-scale investment. David Li said "This time, we will be no longer greedy for cheap and we will meet all the German standards." The "Light Tower Project" is a brand new starting point after we fully get the hang of how we can upgrade our technology. By building a digitalized enterprise, CIMC's R&D, design, production, marketing, after-sales, brand management and intellectual property management will be connected to improve the competitiveness of the company, maintain the leading position of CIMC Vehicles in the global competition, and provide customers with better products and experience.

The "Light Tower Project" built by CIMC Vehicles is a revolution based on the "third-generation technology of trailer production." Why is it named as "Light Tower"?

David Li said at the International Forum on the Development of China's Special Vehicle Industry: "Light Tower means to illuminate the road ahead and we hope it can become the direction of technological upgrading in the industry."

Dr. Derek Li was involved in this project when he joined CIMC Vehicles four years ago. He was also a bit puzzled about the name of the project. "There are many businesses in CIMC that are related to the ocean. Do they really want to build 'Light Tower'?" Now he is the head of the "Light Tower Project" team, he later learned that this name is symbolic. "Light Tower" sheds light on both the near future and remote future. In a long term, it illuminates the road towards advanced manufacturing. In a short term, it means that the companies that implement the project can earn real benefits and improve profitability.

Compared with previous occasions, CIMC Vehicles is particularly cautious and thinks highly of the project. Many members of the team told us that David Li devoted a lot of time and energy for this project. He gave up plenty of other work, but participated in many decisions and discussions in the project himself. David Li revealed that there are two stages in the preparation of Dongguan Light Tower factory: the planning and the construction. Plan should be put ahead of the construction. There are two very clear main lines in these two phases: technical breakthroughs and managerial innovations, "first design the product and then produce."

In August 2015, after preliminary demonstration and planning, CIMC Vehicles established a digital engineering interest group to conceive, plan and construct digitalized plant in Dongguan. In order to specifically address the process of the R&D, the technical team of CIMC Vehicles headquarter has conducted in-depth investigation and research on the entire R&D and management system of CIMC Vehicles in conjunction with external resources. They found that: At present, taking CIMC Dongguan light tower factory as an example, domestic factories have many problems in product design and R&D, data

management and knowledge reuse, change of management design, process coordination management, project management, after-sales service, IT tools, platforms and so on.

Although the 2D and 3D CAD software application of CIMC Vehicles' Technology Department has achieved certain results, it has not yet formed a systematic application system and supporting environment. Different model projects use different design software, and the coordination between design and simulation is weak. Product design and process design have poor synergy. The establishment of the product model shows one-sidedness and monotony, resulting into incomplete information in the product model, and the modeling system can only take into account one aspect of the product development process, rather than meeting the requirements of model during the entire process of design. The data of products is managed as a folder on a common server, thus, the three-dimensional component version cannot be controlled effectively, which is not conducive to data security management and application, and affects the efficiency of development. In addition, due to historical reasons, there is no unified CAD tool. BOM information is created in Excel maintained by people. Three sets of ERP system integration only focus on financial affairs without any consideration of production and inventory, and thus a closed-loop information system is not created.

The project team also found that the headquarter lacked the ability to use IT to well manage R&D and production. The headquarter used DDM earlier but ended. EPDM was also used by SCVC technology center without an end. Many single-point IT systems lead to weak integration capabilities, order-purchase-production-inventory systems do not form a closed-loop, inventory cannot be monitored, and the change of execution cannot be completed within the system, resulting into high inventory. CIMC Vehicles headquarter adopted the group's project management system of OA. The technical department of SCVC did not use it. If these problems persist for a long time, it will seriously affect the market competitiveness of Dongguan light tower factory, resulting into backwardness in the development capacity of new vehicles, low efficiency in research and

# How to Become the Leader in China's Special Vehicle Manufacturing Industry?

□ Ji Pengfei GanYingxin

On November 4, 2017, David Li, the chairman of Special Vehicle Branch, China Association of Automobile Manufacturers, and the Board Director & General Manager of CIMC Vehicles (Group) Co., Ltd., disclosed the "Light Tower Project" of CIMC Vehicles to the industry for the first time at the China International Forum on the Development of Special Vehicle Industry. The "Light Tower Project" has attracted the attention of the industry. This future-oriented process and equipment upgrade plan are expected to transform the modes of management and production of existing special vehicles. The technology of product modularization and digitalized integration of manufacturing systems have enabled the production which used to require more than 1,000 people in the past to be completed by only two or three hundred people now. Production and management are more efficient and smarter, and VOCs are eliminated throughout the production process, making products more environment-friendly and energy-efficient.

Why does CIMC Vehicles implement the "Light Tower Project"? Where will the "Light Tower Project" bring CIMC Vehicles? We exclusively interviewed the team of the

"Light Tower Project" of CIMC Vehicles, trying to unveil the mask of this project.

## CIMC Vehicles seeks breakthrough in technology and process amidst twists and turns

CIMC Vehicles has been developed at an alarming rate since it entered the road transport vehicle industry in 2002. In 2004, it became China's largest trailer (special vehicles) manufacturing enterprise. The scale of its production and the yield and sales ranked the first in the world that year and still remain so till today. The special vehicle industry is still "small, scattered and messy", but the entry of CIMC Vehicles means the special vehicle industry might turn into a larger scale with a tendency to be managed like a conglomeration. It also provides a model for the restructuring and merger in the special automobile industry and China's special auto industry's going global.

Relying on the group's sophisticated technology, process and long-term

experience in overseas markets in container production, CIMC Vehicles has innovated in management and production. In 2004, it completed the acquisition of Zhumadian Huajun and Yangzhou Tonghua and built new CIMC's vehicle segment. With the deepening of the understanding of special auto industry, CIMC Vehicles became the first of its kind to establish its own system and introduce European technology into China in terms of sales network, after-sales service, and financial leasing ever since 2009.

At present, CIMC Vehicles has 25 manufacturing bases around the world with more than 13,000 employees, and builds ten major categories of nearly 1000 types of special vehicles including container skeleton vehicle, flatbed vehicle, baffle vehicle, side curtain vehicle, van, grille vehicle, reefer (insulated) vehicle, fuel tanker, powder tanker, mixer, sanitation vehicle and so on, ranking the first in the global trailer industry for four consecutive years.

In such a short period of time, it has become the No. 1 in the domestic and even global market. Why did CIMC Vehicles spend so much

on renovating itself? It is mainly due to a sense of crisis on both domestic and global markets.

During the China Commercial Vehicles Show in 2017, David Li said in an interview with us that under the "new normal" of the Chinese economy, the domestic special vehicle market is facing unprecedented challenges: China is gradually losing its advantages of cost such as demographic dividends and raw material dividends. Once the globalization trend has weakened these advantages, the status of Chinese products will be dangerous. Therefore, the establishment of technical barriers is the most important measure.

In fact, as a globalized multinational enterprise, CIMC Vehicles has been acquiring many European special vehicle enterprises since 2007, and trying to link the low domestic manufacturing costs with the strong European technology, but the result was not satisfactory. Restrained by the low efficiency and high cost of manufacturing, the Dutch company Burg had been in a state of loss. In 2007, after the CIMC Group acquired the Dutch company Burg, David Li, who was responsible

for CIMC's overseas operations, was interested in matching the cooperation between Burg's wholly-owned subsidiary LAG in Belgium and CIMC Tonghua, both of which centered on the production of tank trucks with a large space for cooperation. CIMC Vehicles at that time thought LAG could transfer some of its inefficient manufacturing operations to China and increase production. At the same time, CIMC Tonghua could obtain European technology to achieve a breakthrough in the high-end market.

Although at that time LAG's technology of tank vehicle was not top-notch in Europe, there was still a large gap between China's technology levels and that of LAG. This was an attempt to transfer the highest level of European manufacturing technology to the domestic core production base. This cooperation ended in failure. LAG was concerned about the quality of CIMC Tonghua's products. CIMC Tonghua was concerned that the process of making European tank cars was complicated, time-consuming with low return. As a result, the two parties gradually lost interest in cooperation and in 2009, and their cooperation thus went into stagnation.

Until 2013, the headquarters of CIMC Vehicles coordinated the two companies to clarify the transaction rules and the cooperation between the two parties gradually went back on track.

The impediment of the cooperation between CIMC Tonghua and LAG has made CIMC vehicles realized that simply matching the domestic and international markets has more difficulties than expected, and the key reason lies in the difference between processes of production and manufacturing. Thus, in April 2008, in order to expand the market for skeleton vehicles and side curtain vehicle in Europe, CIMC Vehicles launched the LAG #2 general-purpose trailer production line project at the Shenzhen CIMC Special Purpose Vehicles Co., Ltd. (hereinafter: SCVC). Different from the previous partial transformation of production process of CIMC Tonghua, this time, CIMC Vehicles copied the LAG production line to SCVC. Taking advantage of China's production capacity and low cost, it produced components in China and then shipped them to LAG in Belgium for assembly and sale.



## Launching Intelligent trailer system and enhancing comprehensive economic benefits

**Special Purpose Vehicle:** What are the new developments of products of CIMC Vehicles in intelligentization?

**David Li:** In the field of commercial vehicle, the sensor and data transmission have become the standard configuration, but are rarely seen in trailers (special purpose vehicles). In fact, our trailers already have some intellectualized parts, such as ABS, EBS and so on. These parts themselves contain some sensors, but the data on these sensors cannot be transmitted. Then, we try to start a new business – “trailer sharing, adhering”, adhere to giving play to our own strengths, and launch a set of our own smart trailer system which is also currently the leading domestic system. This set of system utilizes smart terminals to acquire multi-dimensional status data of trailers, uploads all data to smart data

cloud platform by the seamlessly joint smart data transmission channels, and helps the supervisor to optimize management by the big data processing and analysis. In fact, our ultimate goal is to help customers to achieve the visualization management of trailers and cargos, minimum operation cost, and optimal efficiency, and meanwhile ensure the safest operation process, and finally improve the comprehensive economic results and promote the development of smart traffic.

## In 2017, the group business mushroomed

**Transporter:** How's the performance of CIMC Vehicles in the market in 2017?

**David Li:** As the old saying goes, “Good rain knows the season”, “And gives vital moisture to all things”. In my opinion, in 2017 China's economic development momentum is robust, and the domestic development tendency of our special vehicle industry shows a transitional good prospect. There are two policy-type advantages in 2017: First,

the State Council has released the Opinions on Further Boosting Cost Decreasing and Benefit Increasing in Logistics, and our logistics industry and special purpose vehicle manufacturing industry will be one of the biggest beneficiaries. Second, the convening of the 19th National Congress of the CPC brings new hopes to our industry, and allows us to benefit a lot from high-speed development of economy. In 2017, our business contribution in China exceeded 50% of global operation, which was a satisfactory signal. In 2017, China has strengthened the control measures for manufacturing emissions, and this will cause production suspension of many enterprises with backward equipment and technologies in our industry, as well as concentration of more orders in large factories. Meanwhile, CIMC Vehicles own leading equipment and technologies to bring updated and better products to customers at home and abroad. So, as a whole, our business continues to grow at a rapid rate, and our operating income also increases on a year-on-year basis.

## Improving working environment and strengthen attraction

**China.com.cn:** What pressure will the abrupt storm of national environmental inspection cause on CIMC Vehicles?

**David Li:** The world is through vicissitudes, and environmental protection should start with “me”. We are an enterprise devoting to creating a resource-conserving, environmentally friendly society. We produce vehicles and meanwhile pay attention to green operation. The issue of “three wastes” (waste water, waste gas, waste) in the special vehicle industry is inescapable, and we don't take any chances. We have also increased our investment in environmental protection, and made continuous improvement. Our Dongguan Light Tower Factory has taken the lead in this aspect by having achieved zero emissions. After being treated, our wastewater should be inspected in a goldfish pond. The wastewater is safe if we can raise goldfish with it. Additionally, we utilize leading coating equipment and technologies, leading waste gas treatment equipment, leading dust collection and purification equipment to improve the manufacturing environment. For example, when robot arms are spraying painting, people nearby can't smell the paint. We have been taking these actions in response to the national calls. We indirectly become more attractive to young workers when we improve the environment governance.

## Welcome to CIMC Vehicles to work until retirement

**360CHE.COM:** Will the reduction of manual operation due to design mathematical modeling and manufacturing light-towerization lead to fewer employees?

**David Li:** Because automatic production is widely utilized, including the utilization of robots, the number of front-line personnel will naturally reduce, but a lot of personnel

are required in the digital workshops and back stages in order to support such a modern factory operating at a high speed. For example, a lot of details of mathematical modeling design are reflected in the model, many workers are required because a lot of production commands are input by key board, and all this requires professional skilled talents. Therefore, the increased personnel and operating posts are not the same as those reduced operating posts. We reduce cumbersome physical work in the principle of “people orientated”, a lot of auxiliary posts will appear. And the increased posts involve the “keyboard man” work preferred by the post-90s and post-00s generations.

Actually, our company will experience naturally reducing of some blue collar workers every year, and in the future we will pay more attention to recruiting more young workers having received higher education. We expect more young workers can join our team and work here until they retire. We don't hope that a lot of young workers are recruited but naturally eliminated after

five or six years, and this is not the goal of modern manufacturing. All of us admire “Made in Germany”, and the technicians cultivated in German factories will work until they retire. We also hope that the digital factories of “Made in China” will pursue and achieve this goal in the future; meanwhile, we should watch out for transformation traps, respect and cultivate personnel, and strive for “daily progress of 1%”. This is the strongest support of personnel to the company's sustainable development. If you are willing to develop with us, we are willing to help you grow, provide more internal learning opportunities, and meet the demands of different personnel to pursue the development of different careers.

**Modern Logistics News:** Can you describe the development of domestic special purpose vehicle industry in 2017 by several keywords?

**David Li:** In my opinion, the industry keywords in the new era are law and regulation compliance, and digital management.





# Annotate the Development of CIMC Vehicles from a Global Perspective

– David’s answer to media question

□ David Li (Narrator) GanYingxin (Collator)

The industry’s well-known “2017 China Commercial Vehicles Show” was held in Wuhan on 4-7 November, 2017. David Li, the Board Director & General Manager of CIMC Vehicles (Group) Co., Ltd. was invited to attend “2017 Logistics and Transportation Vehicle Summit Forum” and “2017 Special Vehicles Industry Development International Forum” to jointly discuss with industry elites the new trend of “linkage development of manufacturing and logistics”, and how to seize the new opportunities of transformation development. At the media conference held on November 4, 2017, David Li also answered questions from eight media correspondents, and calmly showed the elegant demeanor as a professional manager of CIMC when referring to industry policy, enterprise transformation, sharing economy and other aspects. His wisdom and humor in the talk could quickly close the psychological distance with and inspire others. According to the factual records spanning over 100 minutes at the press briefing, a transcript of interview talk with a sense of presence, affinity and the times is collated as follows to present to the readers.

## Initiate a new era for CIMC Vehicles manufacturing

**Commercial Vehicle:** If CIMC Vehicles’ innovative move of “Light Tower Factory” is fully implemented, what kind of impact will it bring to CIMC Vehicles and the domestic trailer industry?

**David Li:** Dongguan Light Tower Factory owned by CIMC Vehicles is the first trailer (special vehicles) producer implementing automatic production. In the domestic special vehicle field, most vehicles are produced in small batches with various models, thus difficult to adapt to automatic production without sorting. We hope to promote transformation and upgrading, and build the leading position in the industry by modular design, as well as moderate automatic production technologies and digital management systems.

Our projects range from Light Tower Factory in Dongguan to Magellan Project in Yangzhou to Huajun Light Tower Project in Zhumadian, indicating the continuous

upgrading of innovation of CIMC Vehicles.

The transformation and upgrading is the path enterprises must take for survival and development, and the manufacturing of special vehicles must also enter a new era. I assume that 20-30 companies will become the core team in domestic special vehicle industry in the next five years. However, I think our practice can provide a reference for the industry from three points: firstly, the traditional manufacturing industry can be transformed and upgraded successfully; secondly, the replicability of innovative projects has been further verified; thirdly, in terms of transformation and upgrading, we should first prepare for innovation in organization, attain freedom from the restraint of traditional cultural factors, and concentrate our efforts on talent cultivation. If we don’t do a solid job, we will probably spend a lot of money to buy a lesson from a failure.

**CHINATRUCK.ORG:** What measures have been taken by CIMC Vehicles to be directed against the Control of car carrier in China?

**David Li:** In response to the government’s governance on nonstandard car transporter, we have established a car transporter action leadership team. By using the advanced technology of centre-axle trailer train for car carrier from Europe, and improving according to the domestic transportation environment, we promoted the production of centre-axle trailer train for car carrier. Moreover, we have incorporated the centre-axle trailer train for car carrier into the preferred vehicle types for digital production, and conduct production with unified internal technical standards and modules. At present, the Group has approved three internal car transporter production bases, with an annual output of more than 10,000 units (vehicles), which is expected to account for 35% of the domestic market.

## Implementing the “shared economy” in trailer field

**find800.cn:** As the global leader in the trailer industry, CIMC Vehicles now enters the sharing field. So what kind of expectations do you have for this? How do you think of

this trend?

**David Li:** Our experience in sharing economy mainly comes from the promotion of “bike sharing”. While for the sharing economy in the trailer industry, we call it lease, and its standard name is “trailer operating lease”. There are two common trailer leasing methods in China: the first is called “financial lease” which has been developed in China for more than a decade, similar to the bank’s “vehicle loan”. The down payment and monthly mortgage payment are both higher, and the vehicle should be handed over to the user after loan maturity. The second is called “operating lease” which is in its infancy in China, that is, it is not necessary to pay a high down payment, only a small deposit required, and the monthly rent is also not high. The customer just utilizes the vehicle which is still owned by the leasing company after termination of lease term.

In China, only two companies recently put the “operating lease” mode into operation, while it has been prevailing in Europe and

America for more than 20 years and mainly serve the small and medium vehicle fleets or individual transporters. China retains 2 million trailers but the number of trailers utilized for operating lease and sharing lease is less than 5,000. Through analysis and estimation, the number of vehicles to be utilized by customers via operating lease is about 200,000, with a huge business development potential. Therefore, we have established the “China Jiangsu Vanguard Trailer Rental Co., Ltd.”, striving to extend the value chain from single manufacturing to “manufacturing plus service plus finance”. Currently, the operating mode of “Vanguard Trailer Rental” is: the user pays monthly rent, and the assets ownership belongs to CIMC Vehicle. “China Jiangsu Vanguard Trailer Rental Co., Ltd.” can offer the leasing service of different models of skeletal trailers at 30-48 feet, and cargo container is also available for leasing. The lease term is at least three years, and brand-new products are provided for all the leasing. The small and medium-sized enterprises and vehicle fleets are also the main targets. The business is still in its initial stage, and I expect publicity from all media friends.



### Super supply chain: providing customers with more suitable products and services

Trailer leasing advocates that the logistics transportation equipment deemed as a non-must-have. Through outsourcing equipment and services, logistics companies can not only put more of their funds into their business development to achieve rapid expansion, but also greatly reduce their asset management costs and the risk of devaluation or idleness of assets.

Benefited from the hot "Sharing Economy" label, operating lease of trailer has been dubbed with "Trailer Sharing" and has attracted the attention in the industry shortly after its emergence. Many players have entered this market, exactly like the launch of another sharing economy war. China Jiangsu Vanguard Trailer Rental Co.,

Ltd. (hereinafter referred to as the "Vanguard Trailer Rental") keenly captured this market trend and seized the opportunity to enter the trailer leasing market.

He Xiansong, Chief Operating Officer of "Vanguard Trailer Rental", believes that, if we mention the trailer resource reserve, the current leasing market can be described with the two words of "disorder" and "shortage", while "Vanguard Trailer Rental" is indeed able to deliver "fine" and "complete" products and services. The reliability and safety of CIMC Vehicles products are recognized by the markets at home and abroad. The vehicle models available for the market are also the most complete in the industry. Moreover, we make professional customization according to the model and configuration of vehicles to be leased after we carried out investigation on industry policies, production processes and production capacity of enterprises, feedback

from the product market, etc., so as to provide our target customers with more appropriate products and services.

Actually, regardless of leasing or purchasing trailers, the decisive factor affecting customer experience must be the product itself. Without the endorsement of strong product power, any operating mode will lose its survival soil and be abandoned by the market. In regard of the vehicle reserve problem faced by our peer competitors, "Vanguard Trailer Rental" has the unique advantage.

For example, cooperating with the core manufacturing factories of CIMC Vehicles, "Vanguard Trailer Rental", on the basis of dynamic inventory management and reasonable vehicle in stock, provides more efficient delivery of vehicles under the top-priority production capacity guarantee of the three major factories.

With the full initiation of the Tower Project of the three major CIMC Vehicles factories, the products of the CIMC Vehicles "Light Tower Factory", which can be called "Product made according to the mind of skilled craftsmen", will also be put on the domestic market for the first time through "Vanguard Trailer Rental" to serve customers.

According to market analysis, the "financing lease" model has been developed for 10 years in the domestic trailer industry. While the "operating lease" model just started in China, and its market demand and development prospects are generally optimistic.

### Intelligent trailer management system: get benefit from data

Since it has been dubbed the "Trailer Sharing", the application of mobile Internet technology is naturally its standard configuration.

By virtue of an intelligent trailer management system (trailer intelligent information management platform, also called "SF-TRAILERNET TECHNOLOGY" system), "Vanguard Trailer Rental" obtains vehicle operation data via car-mounted sensors to accomplish online management of a series of vehicle operation information including monitoring the real-time trailer status, speed, trace, tire temperature and pressure, further ensuring the security of the leased assets. It also provides big data support for customer operation.

Customers can log on to the backend using their system accounts to keep track of the operation of rental vehicles at any time and fill the gaps in a timely manner according to the smart reports that are regularly generated by the system, so as to use it as an important tool for reducing costs, improving efficiency, and operating safely.

The combination of big data and intelligent technology will undoubtedly allow "Vanguard Trailer Rental" to expand its business and become even more powerful. He Xiansong said that, based on customer demand and with the help of the big data platform, we can dig out the information value behind the data, thus providing beneficial help to enterprises. This is an important manifestation of Vanguard Trailer Rental's commitment to creating new value for customers.

Leasing trailer is just a new option for logistics asset allocation. Compared to purchasing trailers, its asset management method is more flexible and may be more economical and practical for some fleets.

At present, there are two modes: "Dry Lease" and "Wet Lease" for trailer leasing in the market. The difference between them lies in the pattern of renting vehicles only or renting vehicles plus supporting services.

Although most existing leasing companies can provide "Wet Leasing" service, it is not easy to be "superior to others".

Most of large vehicle fleets will be equipped with full-time vehicle management personnel and agencies because of the large number of vehicles, which will dilute the cost of vehicle management. Such companies prefer "Dry Lease". However, due to the small number of vehicles, it is not worthwhile for small and medium-sized vehicle fleets to build a team for managing and maintaining vehicles. The "Wet Lease" of trailers can be used, in which a series of activities including vehicle selection, configuration selection, order placement, production, delivery of vehicles, certificate handling, license application, insurance, after-sales, and maintenance are handled by the leasing company, and the vehicle fleet just use vehicles. In such a way, the fleets can better focus on their business and their staff size can be controlled.

To this end, "Vanguard Trailer Rental" has launched a one-stop service to provide vehicle management services for customers nationwide by relying on the after-sales service system of CIMC Vehicles and the after-sales service outlets of major component suppliers such as BPW, JOST, Double Coin, etc. Customers can gain the right to use vehicles just by paying monthly rent, eliminating the cumbersome procedures such as certificate handling, license application, insurance, inspection, repairing, maintenance, and annual examination.

As a new business derived from the trailer industry, "Vanguard Trailer Rental" has successfully secured numerous orders in the express, cold chain, and port industries in less than one year. As of today, about 800 trailers have been delivered, more than 80% of them delivered to small and medium customers.

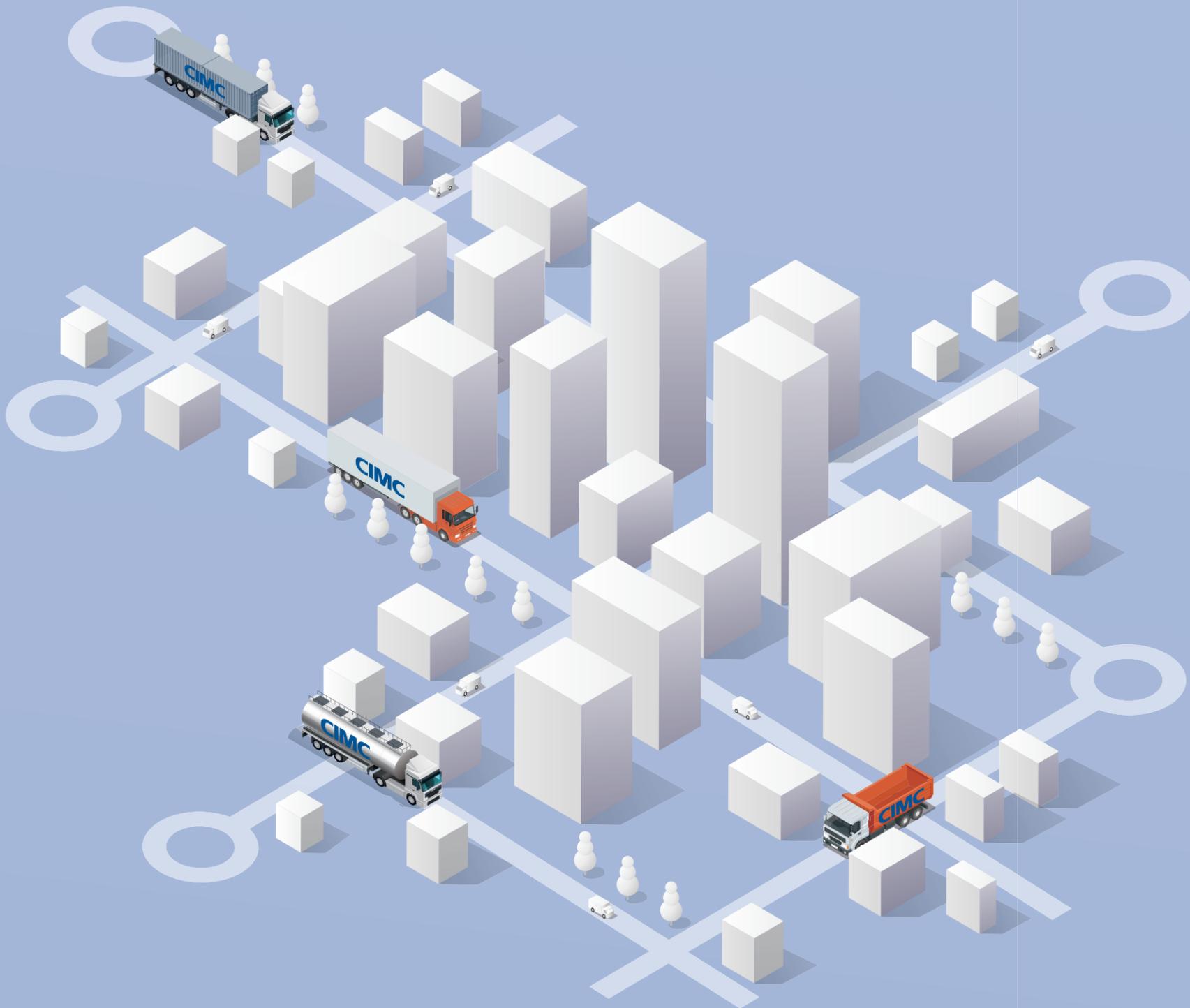
Compared with developed countries, Chinese highway logistics industry is still at the initial stage of development. Industry policies will be subject to change according



to social development. Intense market competition has spawned many new players and operating models. However, continuous evolution is the normal state of Chinese logistics industry at the present stage.

According to the information from He Xiansong, it is the right opportunity for "Vanguard Trailer Rental" to enter the field of trailer operating leasing, and "Vanguard Trailer Rental" also has the absolute strength that is out of reach of many of the peers. He believes that "Vanguard Trailer Rental" is expected to become the industry leader, and make more CIMC Vehicles trailer products with excellent quality and reliable performance become the first choice for customers to improve their efficiency of logistics operations.

We believe that the logistics equipment leasing business dominated by trailer leasing will surely become one of the ways to be relied on in the development of the road freight industry.



## Rent a New Generation Trailer

□ Gan Yingxin Zhou Yimin Liu Wei

In the past, when the demand for vehicles by Chinese highway logistics companies was in short supply, there were two solutions: First, purchasing new or second-hand vehicles; second, emergency dispatching between peers.

In the former case, logistics companies need to deal with "a long list" of matters including vehicle selection, configuration selection, placing order, production, delivery of vehicles, certificate handling, and license application, which costs too much time. Moreover, the more vehicles, the higher threshold for managing vehicles. In the latter case, it is always true that "your peers are enemies". It is difficult to dispatch vehicles because your peak season is also that of others'. Besides, security risk exists in vehicles dispatched.

On the other hand, in the off-season, some of routes have idle vehicles and the operating costs stay at a high level... These problems have always plagued road logistics and transportation companies till the emergence of trailer leasing business.

## Implementing “experiential marketing” and professional marketing

In China’s major sales territories, CIMC Vehicles has laid out the “franchised trailer sales experience shop” network, all of which forming the whole sales network. And CIMC Vehicles has, in particular, improved the marketing network and promoted the experience service mode of consultative trailers selling.

Sitting in the well-designed experience store, customers could not only see the displays of hot selling trailers, but also enjoy the adequate and systematic service when they consult to buy products. The warm introduction, trial runs, purchasing planning, all of these and other services related with the products in experience store are all the same as that in car dealers. At the same time, with the help of the resources of the financial leasing company and “Vanguard Trailer Rental”, in the aspects of financial support scheme for vehicle purchase and trailer leasing, they could provide more quality, comfortable and thoughtful “consultant + experiential” service for customers to buy vehicles, which would benefit the selling greatly.

It is said that CIMC planned to build two “CIMC trailers sales experience demonstration shops” in Shanghai and Guangzhou respectively in 2018. If the demonstration shops operates well, by 2028, the network of 100 “CIMC trailers sales experience shops franchised” will prospect to be built in China’s major sales territories step by step through the way of “existing dealers choosing first”.

In the past, there were no professional sellers for special vehicles which were usually sold by salesman of conventional cars. Lack of professionalism and concentration always makes the sale of special vehicles poor. But if we draw lessons from the past experiences, adopting professional and united business models, the integrated strength of existing resources will be maximized and the problems existed will be solved specifically. Of course, during this process, the management will also become better gradually, and the resources will be used more efficiently. According to Sun Chun’an, General Manager of Southeast Sales Center of CIMC Vehicles, it is known that “I’m professional so I’m strong”, and “the sales model for special vehicles (trailers) must develop towards professionalism and concentration, which also represents an important facet of the reform of CIMC Vehicles marketing system.”

Following the market trends and taking into consideration the potential market opportunities of China’s center-axis trailer trains for car carrier, CIMC Vehicles has organized the technological communication and contrast for many times, and marched forward under the principle of “resources sharing and interests maximization”. Because of these measures, at the beginning of 2018, CIMC Vehicles decided to design the technical



drawings of three core factories’ center-axis trailer trains for car carrier trailers in a unified and modular way, and for the Chinese market, it set up a specific marketing team to sell vehicles sharing the same brand and models in a unified way. At the same time, through professional and unified marketing activities, it also effectively consolidates the brand advantage of CIMC Vehicles. In 2018, the sales center of CIMC Vehicles in China set up a professional sales team for tanker, aiming at differentiated selling points and committing to pioneering the industry.

## Initiate the “trailers housekeeper” to promote the market expansion

On April 28, 2018, the “Trailer Housekeeper O2O program” was launched in Guangzhou, China. Through this program, CIMC Vehicles is going to connect with its consumers closer by establishing online shopping malls with B2C business models and creating an enabling environment for the online and offline connectivity.

To strengthen the connection between scattered resources, CIMC Vehicles has also established the platform of Internet marketing management. It strives to make great leaps in big data’s collection and application and form a new ecology of product marketing in the way of collecting transaction data and using auxiliary tools such as the Internet, cloud computing and artificial intelligence. Through the

professional, market-oriented R&D and the experience service of consultative selling, CIMC Vehicles hopes that the technology and marketing could match each other better.

“Trailers Housekeeper”, a network of marketing service built on the influence of CIMC Vehicles, is a vital method for CIMC Vehicles to serve consumers. If going well, it will be a solid foundation for production marketing and after-sales service and the operating lease of the ‘Vanguard Trailer Rental’. Therefore, for the service level of marketing, CIMC Vehicles will be expected to be the No.1 in the industry,” said Sun Chun’an.

Currently, the offline program is going well. From China’s existing Equipment Service Stations, CIMC Vehicles will strictly select 300 of them and then authorize them gradually. In the past, Equipment Service Stations could only provide service for one factory, but after CIMC Vehicles’ authorization, they could cover all the products of CIMC Vehicles and the operating lease of “Vanguard Trailer Rental”.

As Yan Chaoyuan, General Manager of Midwest Sales Center of CIMC Vehicles said, “CIMC Vehicles has built and been improving the network of Equipment Service Stations gradually across China. No matter where the customers are, either in the remote counties or in the populous large- and medium-sized cities, they can easily find CIMC

Vehicles service stations. And every service station is equipped with adequate spare parts and supported by some seasoned maintenance personnel. If customers have any maintenance problem, guided by the navigation of the network, they can come to the nearest station for help, which is very convenient.”The online program is expected to run in August 2018.

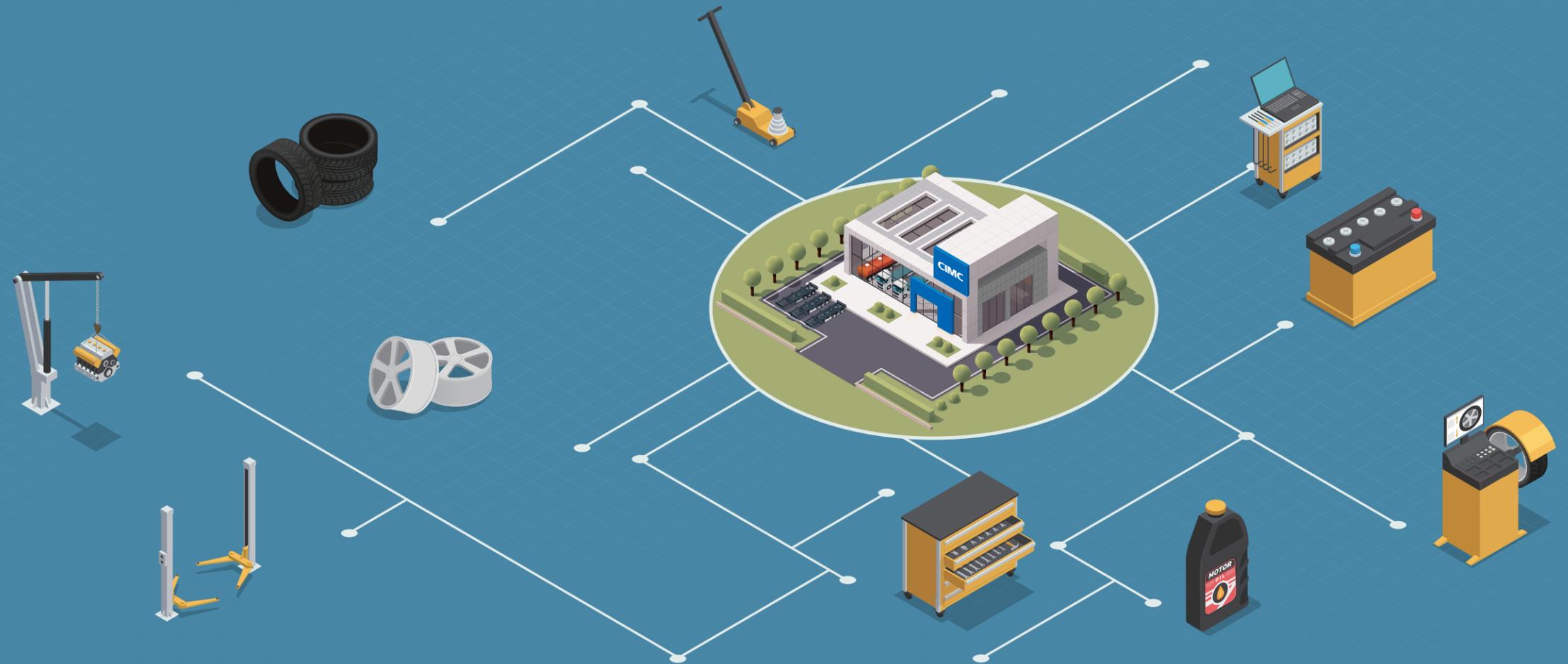
In the new era of digital economy, supported by the “Light Tower Factory”, CIMC Vehicles has always been producing high-quality “Light Tower trailer products” in high-efficient “Light Tower speed”. Relying on the Internet platform of mobile marketing service – “Trailer Housekeeper”, CIMC Vehicles closely combines the pattern of trailers sales experience franchise with spare parts service stations in China. Undoubtedly, these actions will contribute to its core competitiveness of markets, and it is very likely to help to complete the upgrading task from “No.1 global sales volume” to “global market leader of sales service” in a short time.

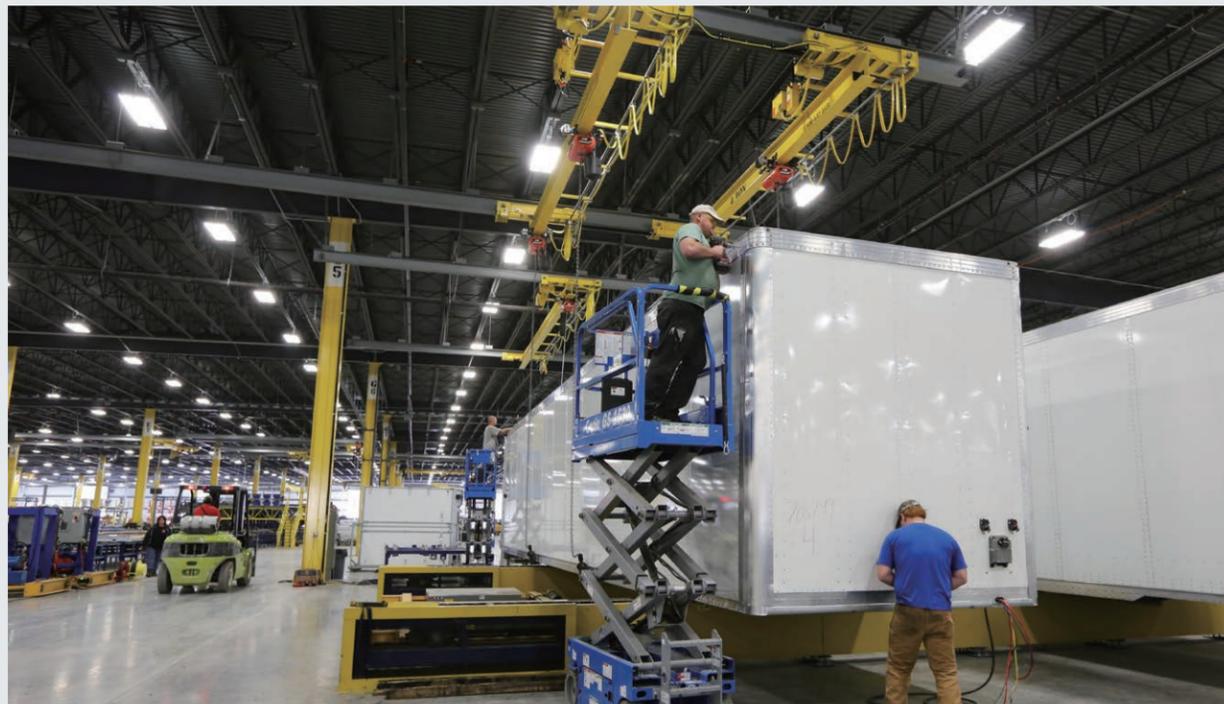


# Sell the Products of Light Tower Factory

□ Gan Yingxin, Zhou Yimin, Zhang Luding

In China, most of the trailers are sold through their own distribution channels. Due to the limitation of some objective conditions, consumers could hardly get a satisfactory experience of purchasing and driving. How to promote the products of "Light Tower Factory" in the market? And how to make these products featuring future trends attract consumers' attention? Is there any marketing method? Of course there is. The sales team of CIMC Vehicles put forward the concept of experiential marketing "selling trailers in the way of selling cars in the way", and made bold innovative explorations.





Reform is the result of interaction of different forces. Heads of multiple core manufacturing factories of CIMC Vehicles believe that it is to improve the supply of products and services and promote industrial transformation and upgrading for the special vehicle industry in the tide of "supply-side reform".

"For our company, the 'supply-side reform' means personalized customization, flexible production and scenario-based application," said Gao Chengwen, General Manager of Dongguan CIMC Special Vehicle Co., Ltd. The way out for both labor cost reduction and production efficiency improvement lies in intelligent manufacturing. He believes that the intelligent trailer business is still at the initial stage in China, and the company should seize the initial stage, develop quickly and gain the first-mover advantages.

### "Made in China" creates the world-class quality

how to improve manufacturing accuracy? Then how to rank among the strong companies, and produce the best products in the world?

In CIMC Vehicles, there is another "not typical" refrigerated trailer production factory which becomes the largest manufacturer in Chinese refrigerated vehicle after 10 years of efforts. Foreign customers generally say that the products are designed and manufactured by European companies after they see the products. In fact the products are authentically "Made in China" from Qingdao CIMC Reefer Trailer Co., Ltd.(hereinafter

referred to as Qingdao CIMC) "We should produce top-notch products in the local cold chain market." This statement is a kind of belief, as well as the objective achieved by Wang Xiaoyi, General Manager of Qingdao CIMC.

Qingdao CIMC Reefer Trailer focused on the overseas market in the past, and stated to move towards the Chinese market in 2013. David Li, then-Chairman of the Company specially applied for the "Qingfeng" brand for the Company's development in the Chinese refrigerated vehicle market, with the purpose of creating high-end, green and leading products.

In 2016, Qingdao CIMC achieved full coverage of all domestic refrigerated vans and box van trailers. By walking "a road totally different from that of other companies", the Company continues to complete technology transformation and upgrading, namely, the mode of "European and American refrigerated vehicle module design + major assemblies manufactured precisely in China + overseas quick CKD assembly" turns the products produced overseas into the "Made in 'local countries'". The continuous transformation and upgrading of products and manufacturing technologies shows the latest strength of "Made in China" to the world. Currently, the Company owns both American refrigerated vehicle technologies and European refrigerated vehicle technologies, and has always maintained the most advanced technology, the largest production capacity, the highest product level, and the best manufacturing equipment in China and

even in Asia as well as the domestic leading products.

China has complete industrial materials, relatively strong supporting capabilities, abundant human resources, as well as high level of manufacturing technologies and equipment. "We can satisfy customer's customized requirements very well," said Wang Xiaoyi. "We have mastered all mainstream core technologies in refrigerated vehicles in Europe and America, the western countries and we are both researching the building method of next-generation products, and trying to find the highlights."

In this factory, the new-generation refrigerated semi-trailer G2.0 which is being developed and produced can be described as exceedingly imaginable: first, the vehicle becomes lighter, and the weight of complete vehicle reduces 350kg by changing the steel parts into carbon fiber composite parts; second, the vehicle becomes more environmentally friendly, and the heat retaining property increases 10%; third, the vehicle runs faster and the drag coefficient reduces by 15%; fourth, the inside height and volume of the vehicle increases, and the probability of crash by loading/unloading operation of fork trucks reduces by 90%.

"In technological innovation, we have applied for more than 60 patents and various patents in refrigerated semi-trailer G2.0 products are in the process of application. Next, we should also carry out the intelligent transformation and

upgrading of the factory. Currently, we have completed four overseas refrigerated truck assembly lines (two for the USA, one for Bahrain, and one for South Africa), seeking more suitable modular products for our customers. We transport refrigerated vehicle products to the global assembly points with CKD and loading points of partners by CIMC's container, developing the overseas market." Wang revealed that for the domestic refrigerated vehicle products, they will find local partners in Beijing, Guangzhou, Sichuan and other regions as per the path of module design and manufacturing, and have built the refrigerated vehicle CKD assembly business.

"Facing the globalization challenges, one who can well integrate resources and realize connectivity will win the future," Wang Xiaoyi said confidently. "We hope that the refrigerated vehicle plate of CIMC Vehicles to become a consortium to increase the market share. The ultimate goal is to integrate the global resources to build the CIMC refrigerated vehicle brand, form new competitive advantages with quality brand as symbol, and find a path to compete with the big brands in Europe and America."

Globally, CIMC Vehicles should still continuously improve the manufacturing quality. "Insufficiency technology in American, lean production in Japan, and craftsman tradition in Germany and so on are all the lessons we need to make up the most. There is still a long way for us to move towards 'Made in China 2025 CIMC Action Plan'." Jiang Qiwen, SCVC consortium said that as long as they grasp the transformation direction of the manufacturing industry and insist on exploring, they can upgrade the production efficiency through the upgrading of the manufacturing mode, realize the "curve overtaking" and quickly meet the needs of the customers.

Facing the future, CIMC Vehicles is the participant, promoter and beneficiary in the new round of globalization. Currently, CIMC Vehicles is keeping in alignment with the "world-class quality" by taking "Light Tower Factory" as an engine. Relying on such a platform and consensus, CIMC Vehicles has made a breakthrough in the global manufacturing landscape, created global champion products in a new round of industrial waves, and contributed Chinese wisdom and Chinese approach to the transformation of the global trailer industry.



"The advantages of our original production lines have gone forever, so we have to make transformation and upgrading," said Liu Hongqing, Co-president of CIMC Tonghua. "We are devoting to the construction of 'digital instruction workshops' with high enthusiasm, in the hope of building a leading 'Yangzhou Light Tower Factory'".

The accelerated integration of industrialization and informatization is pushing CIMC Tonghua to start a new revolution of efficiency transition.

"We have always attached great importance to manufacturing innovation and products iteration, and our strongest advantage is still coating currently because the coating is a subversive revolution. The KTL cataphoresis plus environment friendly powder coating cannot only make the appearance of our products become beautiful, but also enable the anti-corrosion term of our products reach 5-7 years. We fundamentally solve the problem which can't be solved in all domestic commercial vehicles. Currently commercial vehicles industry can only achieve KTL cataphoresis, while powder injection still can't be achieved. In addition, our production and manufacturing technologies reach 100% zero emissions.

Legitimacy and compliance is our life line," said Xia Aijun, Deputy General Manager of CIMC Tonghua.

As new technologies and new systems are embedded in the "Light Tower Factory", the factory workshops here are radiating the new vitality.

Besides CIMC Tonghua, we can strongly feel the same pursuit of excellence in quality when visiting other brother enterprises. According to the analysis of some observers, CIMC Vehicles promotes its transformation and upgrading with the help of technology advancement, laying a solid foundation for the sustainability of global trailer operation. It is also the key to the rapid rise of CIMC Vehicles to a company ranking first in the world from a local small company in just 16 years.

### Strengthening "Organization Remodeling" and realizing "Intelligent Manufacturing"

"In terms of production line upgrade, we not only change machines but also strengthen organization remodeling. There are no products which can be in the

leading position forever in the market, but only teams which make continuous efforts to go beyond themselves. Our own R&D teams have over 100 members, and as long as you pass the interview and join the digital instruction team, your post wage will increase by 30%. In view of the digital instruction workshops, we train and publicly recruit personnel for some important positions, so more competent and willing personnel can develop better in this platform. We will offer a variety of incentive policies to stimulate the vitality of the company, and make the personnel feel they are benefited and they have hope," said Liu Hongqing.

"From R&D, production to testing, delivery, all aspects can give you a sense of real strength, and in fact every effort made by us today is to lead the future development of the whole industry," recalled Zhai Jingxiong, General Manager of Qingdao CIMC Special Vehicles Co., Ltd. Since joining CIMC in 1994, Zhai has been involved in and witnessed CIMC's pursuit of excellence in the core technology field. In 1994, CIMC and Baosteel started the business cooperation, signed strategic cooperation agreement in January 2009 (the latter renamed China Baowu Steel

Group Co., Ltd. in 2016 after restructure). In December 2012, Baosteel and CIMC established a "Joint Laboratory for Vehicle Steel". And in February 2014, Wusteel set up a "Joint Laboratory for High Performance Structure Steel" with CIMC Vehicles for research on high strength and lightweight materials for special purpose vehicle, as well as technology upgrade promotion for products and manufacturing by completing various tests in the laboratory. In 2017, the total amount of B980LE ultra high strength high treatment materials CIMC Vehicles used exceeds 1,000 tons. It's leading in the updating and upgrading of the materials used for the special purpose vehicles by technology innovation on a basis of strategic cooperation. The faster we progress, the tighter our opponents follow. In fact, the domestic leaders in special vehicle industry are competing fiercely.

The products, technologies and marketing methods of Zhumadian CIMC Huajun Vehicle Co., Ltd. (hereinafter referred to as CIMC Huajun) have always been the target that the domestic competitive products in the same industry are anxious to copy.

"Frankly, the follow-up speed of competitors

has been very fast in recent years," said Guo Xizhou, General Manager of CIMC Huajun. "The technology develops as the era advances. We should maintain our competitive advantages even if imitated by others. On the one hand, we should protect our own technological achievements by patents and legal weapons, so that competitors can't or dare not to copy us. On the other hand, we should continuously make transformation, self-remodel organizations, build a higher and better platform, strive to provide good products and services, and gap away from competitors, so the competitors can't copy us or catch up with us in a short term difficultly," he added.

"From a global perspective, we need to jump out of the box, redefine the values, construct an agile organization, and form the joint force of team cooperation." Guo Xizhou believes that the process reengineering, talent cultivation and intellectual property protection is the key to creating the efficient enterprise competitiveness.

In June 2018, the new production line of CIMC Huajun "Light Tower Factory" Project of was completed. Zhu Leiming, Vice Director

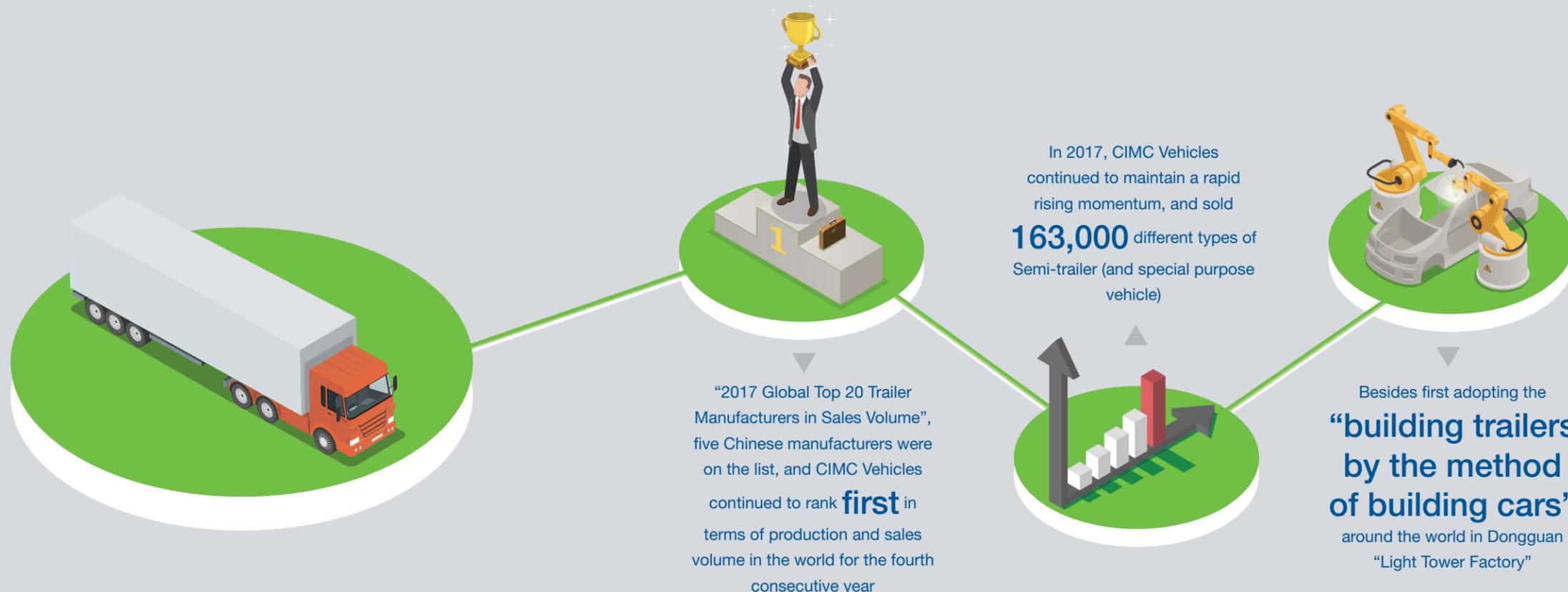
of the project said the delivery period concerned by customers will be greatly shortened after the formal production of the project. In the past, the traditional production line basically needed about 6 days to produce one skeletal trailer; nowadays, the new production line will only take 22 hours. Zhu said that the "Light Tower Factory" will change the traditional production mode for special purpose vehicles (trailer), and gradually move towards the intelligent manufacturing featuring modularization, informatization and automation to increase the efficiency and benefits of production system, and further improve the trailer product quality. We will seek for differences by quality and occupy the market by differences, and continue to maintain the leading position of trailer technologies of CIMC Huajun.

The special vehicle manufacturing industry utilizes the production modes featuring numerous varieties and small batches. In terms of the customized, intelligent and integrated procurement demands, the hope outweighs challenges for the whole industry, and this is also the hope brought by "supply-side reform" to the special purpose vehicle industry.



# Build the New-Generation Trailer

□ Gan Yingxin



In today's world, the new industrial revolution is undergoing drastic changes and the global manufacturing pattern is facing a major reform. The “intelligent” manufacturing is becoming the new tuyen in the Chinese manufacturing industry.

China is a major exporter of trailer (and special purpose vehicle). Especially in 2017, “China Equipment” again attracted the attention of the global media due to the selling of trailer products in a “crazy” situation.

According to the “2017 Global Top 20 Trailer Manufacturers in Sales Volume” released, by the authoritative <Global Trailer> magazine in the trailer field, five Chinese manufacturers were on the list, and CIMC Vehicles continued to rank first in terms of production and sales volume in the world for the four consecutive year.

In 2017, CIMC Vehicles continued to maintain a rapid rising momentum, and sold 163,000 different types of trailer (and special purpose vehicle), increasing by 32.41% year-on-year; achieved the sales income of RMB19.521 billion, increasing by 32.84% year-on-year; achieved the net profit of RMB1.018 billion, increasing by 32.78% year-on-year. The increase in income and net profit was mainly attributable to the good performance of the Chinese market, the better-than-expected income from European and North American markets, local rebound of emerging markets, and other factors.

As early as before 2014, as the world's leading manufacturer of road transport vehicles, a leader in China's trailer and special purpose vehicle manufacturing industry and a forerunner of the “Made in China 2025” strategy, CIMC Vehicles had vigorously promoted the transformation and upgrading with digitization as its core, and launched the “Dongguan Light Tower Factory” project to explore the way of smart upgrading from “quantity to quality” for “Made in China”.

## Change reform and governance bring competitive advantage

Industry insiders consider that China is a manufacturing power, and Chinese manufacturers can better provide green services for the life circle of products with their better understanding of the customer requirements.

Behind this kind of competitive advantage of Chinese are often the transformation of new and old driving force, and the reform of product forms and production modes.

Especially from 2016, the new policy has touched the nerve of the whole trailer (and special purpose vehicle) manufacturing industry along with the successive implementation of laws and regulations in “pollution, overload and overlimit control” in China. The quality system governance swept over the country is forcing the industry transformation and upgrading.

In this transformation, some trailer (and special purpose vehicle) manufacturers have been “reborn” while some has been “at stake and on the verge of death”. The enterprises abiding by laws and regulations are becoming the main force in the market gradually, and the customer demands are showing a more intelligent and personalized consumption trend.

## Build trailers by the method of building cars

So, how can we create high quality products, and achieve corner overtaking? What actions should core manufacturing factories of CIMC Vehicles take?

The life of manufacturing industry lies in quality, while quality is based on production,

and production depends on skills; skills are a hard foundation and management is a soft support. CIMC Vehicles believes that good products come from good top-level design and dynamic assessment. David Li, CEO and President of CIMC Vehicles considers that we should continue to implement the business philosophy of “global operation & local wisdom”, further promote technology advancement and transformation & upgrading, and devote to the construction of different “Light Tower Factories”, and establishment of an agile organization.

On March 20, 2018, CIMC Vehicles launched the first 40-foot and 3-axle intelligent maritime skeletal trailer produced with the KTL process at the Shanghai “Intermodal Asia 2018”, and all the participating guests and customers said the semitrailer was not a one in traditional sense any more.

Besides first adopting the “building trailers by the method of building cars” around the world in Dongguan “Light Tower Factory”, and utilizing the new technologies such as laser blanking, automatic welding, environment friendly powder coating, CIMC Vehicles also adds the latest trailer system, achieving upgrading from tradition

to intelligence, and enabling products to realize quality and cost leadership among the global similar competitive products.

On March 28, 2018, CIMC Vehicles launched a series of new central axle car transporter, which combined cutting-edge technologies of the industry with excellent one-stop services and has been recognized by numerous customers in China. “With the use of KTL cataphoresis plus environment friendly powder coating, we can achieve that, for car transporter, the time to bid farewell to the era of ‘rust water’ has arrived,” said Shen Jianwen, General Manager of Pingshan Plant of SCVC Consortium. All this comes from the strength and advantages gained from information technology innovation and core technology tackling.

As early as in 1992, Yangzhou CIMC Tonghua Special Vehicle Co., Ltd. (hereinafter referred to as CIMC Tonghua) had owned the first trailer production line in China, and settled its first place in the industry. Later in 1995, CIMC Tonghua developed the first car transporter and owned over 100 design patents, with the scientific research funds accounting for about 4% of operating income each year. Nowadays,



## Focus on “Light Tower Factory” Construction and Create Agile Organization

CEO and President of CIMC Vehicles  
David Li

Dear Friends:  
Hi, everyone!

The global economy has achieved 3.8% growth in 2017, with recovery in international trade and industrial production. The economy growth in China achieved a remarkable 6.8%. CIMC Vehicles also made remarkable progress in the same year, achieving annual sales revenue of RMB19.521 billion and net margin RMB1.018 billion.

In 2017, CIMC Vehicles achieved a lot in operation while vigorously advancing transformation and upgrading. We completed the equity restructuring at the group level, and leveraged this opportunity to further perfect the top governance structure. Meanwhile, each subsidiary has basically got the board meeting settled by elevating decision-making capability and efficiency.

In terms of transformation and upgrading, CIMC Vehicles has multiple hot spots. In 2017, we began the construction of

Zhumadian Light Tower Factory and Yangzhou Light Tower Factory.

In 2017, CIMC Vehicles produced over 163,000 trailers of various types, maintaining its top one position in the world in regard of production and sales volume. Its skeletal trailers and tank trucks continue their respective global leadership.

In 2018, the global economy continued to maintain the momentum of growth, but geopolitics has brought instability and frequent events, so the global market continues to remain fragmented. In this regard, CIMC Vehicles should continue to carry out the business philosophy of “global operation and local knowledge”, further promote technical progress and transformation and upgrading, work on the construction of all kinds of “light tower factories”, and create “agile organizations”. Moreover, it should further boost “delegating power to the lower levels” in operation,

and encourage each enterprise to develop without constrains, achieving better profit growth. It also encourages every employee to share the company's success by providing them with better training and diversified learning opportunities.

Statistics indicates that the global export accounts for 30% of the global GDP. All of us are entering a super globalization era gradually and firmly. CIMC Vehicles follows a path of “global operation” and we can further strengthen competitive advantages by controlling “interconnection”.

To take this opportunity, I call on you to join hands to enrich the products and services of each enterprise through “interconnection”, and promote the sustainable development of CIMC Vehicles through “interconnection”. Here, I would like to thank every colleague and friend who contributed to the development of CIMC Vehicles.

## Explore Greater Cooperation Opportunity, Achieve High-quality Business Growth

CEO and President of CIMC, Chairman of CIMC Vehicles  
Mai Boliang

CIMC Vehicles made a good performance in sales and its revenue in 2017 are very satisfactory. Moreover, I firmly believe that CIMC Vehicles will definitely get better year after year. Since 2002 to the present, we have grown to be an industry expert from an outsider, leading the development of global trailer enterprises, and building a reliable brand image. It is observed that we have been the "navigation lamp" in this field.

For the achievements made by CIMC Vehicles today, we should sum up experience, and take advantage of the favorable situation. I think there are four core points here: first, as the establishment place of CIMC Vehicles, Shenzhen is forefront of Chinese innovation and opening up, witnessing the great achievements made by China in 40-years' reform and opening up. Second, China is

getting richer and stronger. In the past, the industrial products of Europe and the United States have always occupied the leading position in the market, and we came from behind. In the past 15 years, China's trailer industry has developed rapidly, reflecting the rapid development of our country's economy and national status, and our trailer industry is only a small epitome of it. Third, it is very important to adhere to "global operation", and globalization has become the trend. Fourth, the talent factor is very important. I personally believe that nothing is impossible to a willing mind. If you are devoted to do something, and everyone feels you are suitable and provide support to you, you can make it successfully.

Currently, CIMC Vehicles is the world's only enterprise in the world trailer industry to

realize "global operation". In the future, we will take the lead in this industry, so we should make innovation ourselves because it has been impossible to fully copy others although we can learn from others. We can just obtain inspirations and draw lessons from others. We should rely on ourselves to truly explore the way. I hope that in 2018, CIMC Vehicles will refer to the standard of the global top 10 enterprises, learn from and exchange with European and American competitors to explore greater cooperation opportunities, and consequently achieve high-quality business growth and sustainable development of enterprise.

—An excerpt from the speech in the meeting of the new board of directors of CIMC Vehicles in 2018



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## CIMC Today (CIMC Vehicles Special Issue)

《今日中集》，总第 222 期，2018 年 8 月出版  
CIMC Today, Total Volumes-222, Published in August 2018

**主办 | Sponsored By**  
中国国际海运集装箱（集团）股份有限公司  
China International Marine Containers (Group) Co., Ltd.

**翻译 | Translation Institution**  
中国国际出版集团有限公司  
China International Publishing (Group) Co., Ltd.

**发行 | Distribution**  
中国邮政集团广东省分公司  
China Post Group Guangdong branch  
商用汽车杂志社  
Commercial Vehicle Magazine Agency

**设计印刷 | Design and Printing**  
凸版快捷财经印刷有限公司  
Toppan Vintage Co., Ltd.

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**登记证号 | Registration No**  
粤内登字 B 第 10163 号（内部发行）  
Yue Nei Deng Zi B No.10163  
(Internally distributed)

内部资料 免费交流  
Internal Materials for Free Exchange

## Editor's Note

## Innovation Driven, Service Global

In 2017, CIMC Vehicles continued to rank first in terms of trailer production and sales volume in the world for the fourth consecutive year.

In less than 16 years, CIMC Vehicles miraculously rose in China from a little-known Chinese factory to the world leading company, placing itself in the spotlight of the world and inspiring the whole industry! What makes CIMC Vehicles?

In 2018, CIMC Vehicles is determined to make every effort to build a "Light Tower Factory", towards a bright future! How do we size up the situation, grasp opportunities, create new advantages and achieve a new stride in the competition of super globalization era? How do we play a role as an industry leader, lead the in-depth transformation and upgrade of "Made in China", and boldly blaze a trail?

With the above these questions, CIMC Vehicles and CIMC carried out the collection activities of

"Interconnection + Transformation and Upgrading", entered CIMC Vehicles' manufacturing factories, understand the successful experience acquired by domestic regional branches, and explore the driving force behind transformation.

In Yangzhou, we have explored the new path to cultivate technical talents in digital instruction workshops; in Zhumadian, we have visited the command room of "Light Tower Factory", and had a dialogue with national labor models who are in charge of the commissioning of world's leading equipment; in Qingdao, we have walked into the China refrigerated vehicle production base, and explored the "spirit of craftsmanship" behind precision manufacturing; in Zhenjiang, we have investigated the rental headquarters of "Trailer Gangs" and tried to unlock the password of "entrepreneurship and innovation"; in Shanghai, we have asked strategies from big names in the field as well as the principals of industry associations; in

Guangzhou, we had a dialogue with the principal of the distribution center store, and explored the marketing methods; in Dongguan, we closely observed the laborer production, and experienced the world's leading technologies...

Along the whole way, we have always felt a kind of dauntless force fighting for dreams and a kind of force being a pioneer and seek breakthroughs.

In 15 days, the writing and editing group spanned 7 cities, traveled more than 10,000 kilometers, brought back the interview and research data of over 200,000 words, which has been sorted draft three times out and published for readers. We hope that this issue can open a window for more people to understand "Made in China", and desire to yell and inspire enthusiasm for the transformation and upgrading of CIMC Vehicles!