

## MTI立足产品技术创新 促进行业绿色发展

### MTI Promotes Paper Industry to Green Development Based on Products Technology Innovation

——访美国矿物技术集团造纸轻钙全球技术创新副总裁Guy R. DelFranco

——Interview to Guy R. DelFranco, Vice President, Technology & Innovation, SMI Paper PCC

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Guy R. DelFranco

**编者按：**美国矿物技术集团（MTI）是全球造纸碳酸钙的领先供应商，长期致力于造纸固体废弃物资源化利用领域的创新和研发。日前，MTI造纸轻钙全球技术创新副总裁Guy R. DelFranco先生接受了本刊的采访，并就MTI在造纸固体废弃物资源化利用的新技术及其工业化应用，未来新产品研发策略等方面介绍了MTI在研发创新方面的举措。

**Note:** Minerals Technologies Incorporated, or MTI, a global leading supplier of paper PCC, specializes in the innovation and development of solid waste resource utilization from paper industry. Recently, *China Paper Newsletters* reporter interviewed Mr. Guy R. DelFranco, Vice President, Technology & Innovation, SMI Paper PCC. Mr. Guy R. DelFranco shared lots of information on MTI's new technologies of solid waste resource utilization and their industrial applications, and R&D measurements in the future.

**《造纸信息》记者：**MTI 是造纸行业的全球领先供应商。首先，请您简要介绍一下 MTI 的业务重点，并重点介绍一下贵公司在造纸应用中提供领先技术的途径。

**Guy R. DelFranco :** MTI 是一家全球资源和技术公司，在矿产应用技术和创新方面居领导地位。MTI 在 35 个国家拥有业务，全球设有 159 个生产基地、12 个研发中心，共有 3700 多名员工。2017 年，MTI 的营业收入为 17 亿美元。

**China Paper Newsletters Reporter:** MTI is a global leading supplier to the paper industry. Firstly, would you please introduce MTI's business focus briefly, and in particular provide some overview of your approach to provide leading technology in paper applications ?

**Guy R. DelFranco:** MTI is a global resource and technology based company well known for its leadership position in minerals based application technology and innovation, with operations in 35 countries, 159 worldwide production locations, 12 R&D centers, and over 3,700 employees. In 2017, the Company reported revenues of USD 1.7 billion.

MTI 是沉淀碳酸钙 (PCC) 和膨润土的世界领导者，我们的技术专长还包括滑石粉、研磨碳酸钙 (GCC) 的开采和应用，以及单片耐火材料和耐火激光测量系统的生产。MTI 是 PCC 应用于造纸行业的领导者，以及在非造纸应用领域特种 PCC 的全球领导者。膨润土的领导地位在全球铸造市场上得到了最广泛的认可，并且在宠物护理、织物护理、建筑和环保产品方面也有重要的专业知识。我们在全球钢铁市场拥有大量业务，我们的单片耐火材料和固芯钙线为行业树立了标准，并在美国市场享有盛名。此外，MTI 还有一个能源服务行业，其最出名的是提供最先进的技术来过滤海上石油钻井平台的采油污水。

**《造纸信息》记者：**MTI 造纸 PCC 部门正开发利用将固体废物资源化的新技术，您能否介绍一下这些技术及其在该领域的工业应用情况？

**Guy R. DelFranco :** MTI 一直致力于数个领域，以满足客户对造纸厂周围废物流方面的管理需求。MTI 两种领先的环境解决方案技术是 NewYield™ 碳酸钙和 EnviroFil® PCC。因中国市场对其有着更广泛和更深入的兴趣，这里我们重点介绍 NewYield™ 碳酸钙。

正如许多读者所知，纸浆厂的运作有一个交互式的闭环系统，它可以有效地处理木材并将其制成纸浆，黑液中保留的木质素和使用过的化学品或作为燃料燃烧，或被回收到制浆过程中。一个例外是白泥——它需要在白泥回收窑中煅烧或被填埋处理。这就是 MTI NewYield™ 技术的落脚点。

NewYield™ 是一项已经启动的技术

MTI is the world leader in precipitated calcium carbonate (PCC) and Bentonite clay and our technical expertise includes mining and application of talc, ground calcium carbonate (GCC), as well as production of monolithic refractories and refractory laser measurement systems. We are the leader in applying PCC to the paper industry and amongst the global leaders in Specialty PCC for non-paper applications. Our leadership in Bentonite clays is most acclaimed in the global foundry market and also includes significant expertise in pet care, fabric care, and building and environmental products. We have a substantial presence in the global steel market where our monolithic refractories and solid core calcium wire set the standard for the industry and enjoy a substantial leadership position in the US market. We also have an energy services business which is best known for providing the most advanced technology for filtering produced water from offshore oil rigs.

**China Paper Newsletters Reporter:** MTI Paper PCC is developing new technologies in resource utilization of solid waste. Would you like to share some technologies and their industrial applications in this area?



MTI在35个国家拥有业务，全球设有159个生产基地、12个研发中心

MTI Has Operations in 35 Countries, 159 Worldwide Production Locations, 12 R&D Centers



MTI的NewYield™技术对白泥进行资源化利用  
MTI NewYield™ Converts Lime Mud into a  
Commercially Viable Mineral Filler

解决方案，但目前尚只有一个站点——山东太阳纸业股份有限公司。在此 MTI 已经证明了该工艺可以有效地将这些废物转化为具有商业价值的矿物填料。目前我们的产品在太阳纸业产量已经翻倍，同时着手将这项技术推广到其他客户。在太阳纸业项目上我们学到了很多，特别是在有关制浆工艺方面积累了宝贵的经验。根据客户使用的纸浆来源，以及客户对适合其纸张的填料要求，我们针对每一家工厂将采取适合的方法和工艺流程。我们预计，在未来 1 ~ 5 年的时间里，这一领域将出现显著增长。NewYield™ 技术和世界 PCC 领导者有着天然的契合。它充分利用了我们的核心能力来实施——特别是晶体工程学、专业应用知识、无机化学，以及设计和建造新的矿物工厂的能力。一些公司可能拥有其中的部分技能，但 MTI 是唯一拥有以上所有能力的公司，并且我们承诺将深入致力于推动这一进程。

《造纸信息》记者：中国已经发展成为全球造纸主要的市场，请问 MTI 针对中国市场有没有一些特殊的研发举措，以适应中国市场的需求？

**Guy R. DelFranco:** MTI has been working in several areas to address customer needs in the area of managing waste flows around paper mills. Two of the leading environmental solution technologies are NewYield™ calcium carbonate, and EnviroFil® PCC. For the sake of time, we'll focus on NewYield™ calcium carbonate, as it has a wider and more advanced interest for China at this point.

As many of your readers know, pulp mill operations have interactive closed loop systems that efficiently process wood to pulp—conserving lignins and spent chemicals, and either using them for fuel or recycling them back into the pulping process. An exception is lime mud, which needs to be burned in a kiln or landfilled. That is where MTI's NewYield™ comes in. NewYield™ is a technology solution that has launched already, but still only at one site, Shandong Sun Paper, where MTI has proven the process can effectively convert this waste into a commercially viable mineral filler. We are presently doubling our production at Sun Paper, while taking the first steps to proliferate this technology to other customers. We have learned a great deal, and gained valuable experience, particularly around pulping processes. We are adapting with new approaches, and developing appropriate process adjustments for each site, depending on the pulp source they use, and the products they need in their paper. We expect significant growth in this area, over the coming 1 ~ 5 year horizon. NewYield™ is a natural fit for the world leader in PCC. It pulls upon our key core capabilities to execute, particularly crystal engineering, applications expertise, inorganic chemistry, and the ability to design and construct new mineral plants. Some companies may possess some of these skills, but MTI is uniquely qualified to do this, and we are deeply committed to making this move forward.

**China Paper Newsletters Reporter:** China has been the main market of global papermaking, are there some special R&D measures on Chinese market to meet its demand?



MTI位于苏州的SMART实验室  
MTI SMART Lab in Suzhou

**Guy R. DelFranco :** 的确如此。MTI 和其他造纸同行颇有同感——中国的市场规模和增长对全球造纸行业至关重要。近年来，作为造纸 PCC 的领导者，MTI 造纸 PCC 的研究项目中有 50% 以上是针对亚洲，特别是中国市场。预计这一数字还会增加。我们的 SMART 实验室（特种矿物亚洲区研究与技术中心）位于中国苏州市。该实验室将被视为中国的卓越中心，其不仅为中国的现有业务及地域业务增长提供技术支持，而且在我们的全球技术创新计划中，它也变得越来越重要。我们将在未来的几年里持续增加对 SMART 实验室的投资，以支持基础合成研究和客户应用开发。我们认为环境解决方案，例如 NewYield™，在中国是有特殊需求的——因为在中国，环境法规将催生新的解决方案。MTI 准备提供强有力的技术支持，以确保这些项目在我们的造纸客户中获得成功。

**《造纸信息》记者：** 据了解，新产品研发是 MTI 发展策略中的核心部分之一。请问为什么 MTI 能持续成为该领域的领导者？

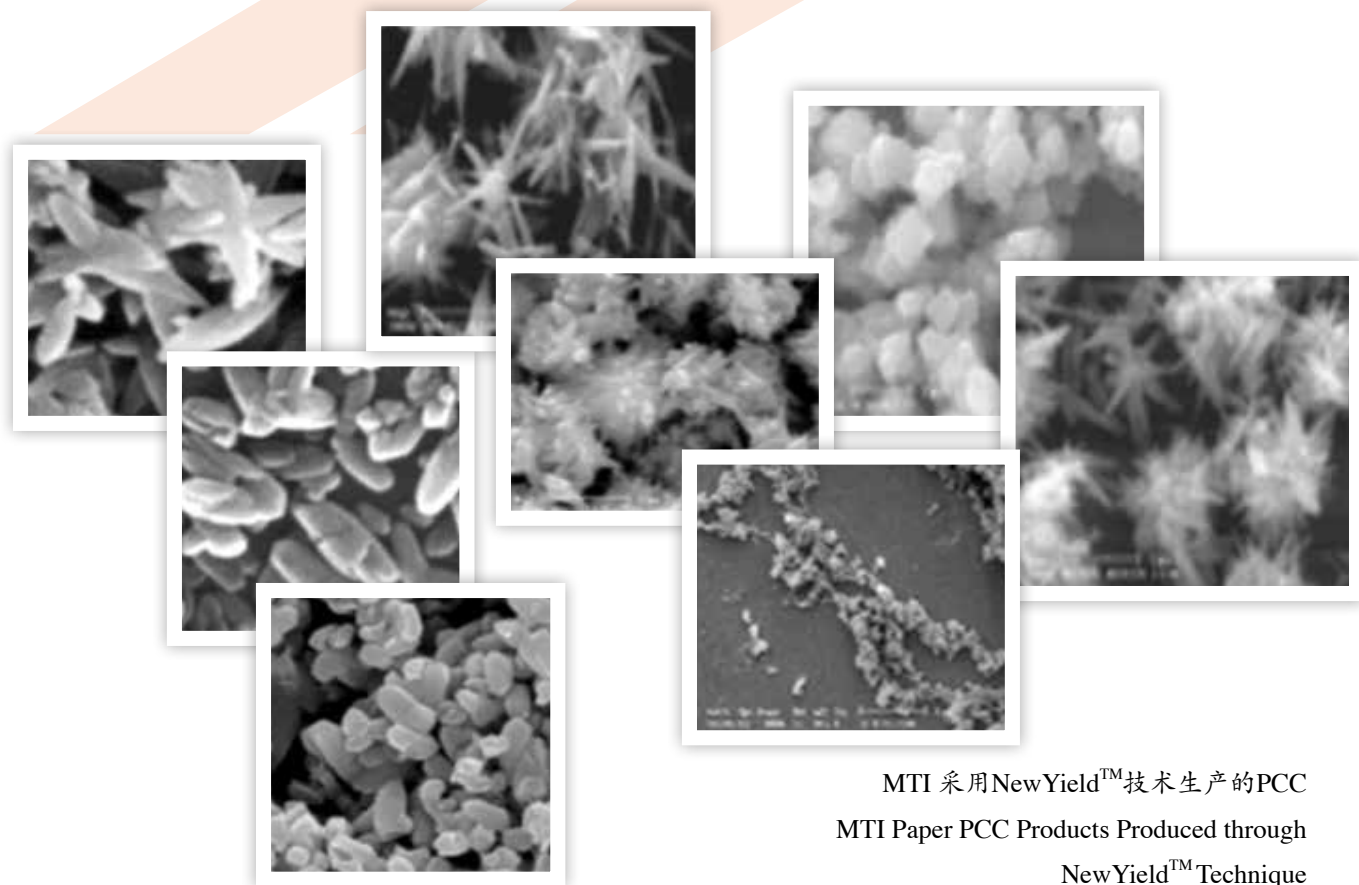
**Guy R. DelFranco :** 这主要归功于我们的员工和他们的经验。有 3 个因素的结合使我们的技

**Guy R. DelFranco:** Very true. MTI sees what the rest of the paper industry has seen- that the market size and growth in China are vital to the global paper industry. As the leader in Paper PCC, in recent years, over 50% of MTI's Paper PCC research studies have been focused in Asia, particularly in China. This is expected to increase. Our SMART Lab (Specialty Minerals Asia Research and Technology Center) is located in Suzhou, China. This site is seen not only as a center of excellence for China, where it supports our existing business and geographic growth in China, but it is also growing in importance to fuel innovation in our global technology initiatives. We see the SMART Lab site being an area for continued growth in investment in the years to come, in support of both synthesis research, and customer applications development. We see environmental solutions, like NewYield™, being of particular need in China, where environmental regulations will necessitate new solutions. MTI is ready to provide strong technical support to ensure that these programs are successful for our paper customers.

**China Paper Newsletters Reporter:** We have learned that, new product development is one of MTI Paper PCC's strengths. Would you please explain why MTI is able to continue to lead in this area?

**Guy R. DelFranco:** It's mostly about our people and their experience. The combination of three things makes our technology and innovation team a very useful customer partner. First, synthesis R&D capability to develop the right crystal morphology. This is followed by engineering development to build the best and most economically efficient facilities. Third, our applications tech service group works closely in the paper mill with our customers to provide maximum value, by optimizing paper property performance and paper machine productivity. This group is where Paper PCC's core technical capabilities reside:





MTI 采用NewYield™技术生产的PCC  
MTI Paper PCC Products Produced through  
NewYield™ Technique

术和创新团队成为客户非常有价值的合作伙伴。第一，拥有基础合成研发能力，可以开发正确的晶体结构。其次是能够建立最好的、最经济有效的生产设施的工程开发能力。第三，我们的应用技术服务团队与我们的客户紧密合作，通过优化纸张性能和纸机的生产效率，为客户提供最大的价值。这些能力就是 PCC 核心技术能力的所在。这些能力被整合进整个业务，通过多年的运作，不断引进新产品，以及通过地理扩张，得以使 MTI 成为世界上最大的 PCC 生产商，全球造纸工业 PCC 供应商的领导者。

对大多数人来说，地理扩张是具有挑战性的，但这项业务能够有效地做到这一点，从历史上看，MTI 在 18 个国家有 80 家工厂。这些能力将继续使 MTI 利用从为印刷书写纸 PCC 的供应中所积累的经验，通过开发新产品来拓展新的市场领域。作为 MTI PCC 部门中的一员，我们对公司的前景感到非常兴奋。谢谢！

these capabilities have been integrated into the whole business, and have been utilized through the years to create the world's largest producer of PCC, and the leading PCC supplier to the global paper industry, through the introduction of new products and through geographic expansion.

For most, geographic expansion is challenging, yet this business is able to do so effectively, as evidenced historically through 80 plants in 18 countries. These same capabilities will continue to allow us to apply what we have learned from our supply of PCC to printing and writing papers applications, to expand into new markets areas with new materials. We at MTI Paper PCC are very excited about our prospects ahead. Thank you.