

20th UITIC
INTERNATIONAL TECHNICAL
FOOTWEAR CONGRESS

Porto
2018
16th–18th
MAY

FROM FASHION TO FACTORY

A New Technological Age



The Road towards Mass Development and Production of Custom Made Footwear

Linli Cao, BM Technology (BMT)



深圳彼岸魔方信息技术有限公司
BM Technology (China) Limited

公司介绍 Company Introduction 2017

全球技术中国化，中国品牌全球化
您的端到端产品信息管理的可信伙伴

PTC软件增值经销商



COLE HAAN

EST.1928

GEOX


JUST DO IT.



DUSTO
大 東



MEXX



kate spade
NEW YORK

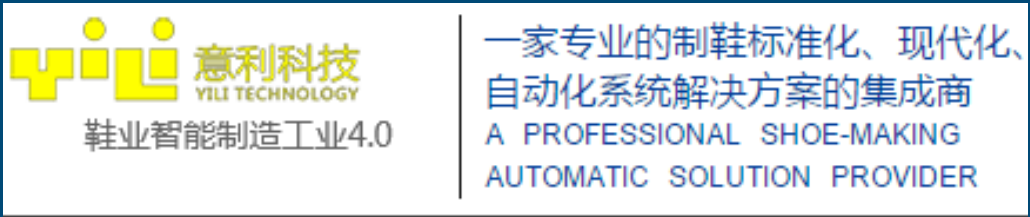


lenovo

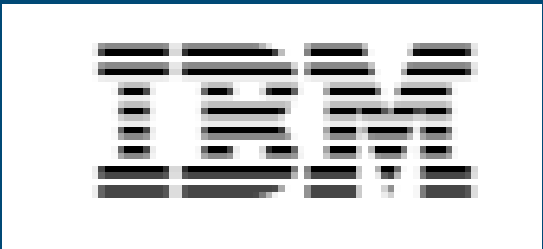
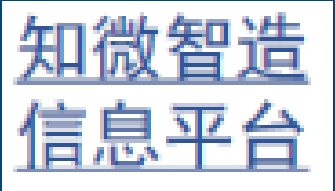


VICTORIA'S
SECRET

Strategic Partners



一家专业的制鞋标准化、现代化、
自动化系统解决方案的集成商
A PROFESSIONAL SHOE-MAKING
AUTOMATIC SOLUTION PROVIDER



Special Thanks to Content Contributors

- Ms. Ying Wang, CEO at Ke Da Heng 3D Design Services, Chengdu, China
- Mr. Wenlong Yang, CEO at Jianfa Last, Dongguan, Guangdong, China
- Mr. Guoquan Wang, EMMA CEO, Dongguan, Guangdong, China
- Mr. Chongguo Yang, President and CEO at Yili Intelligent Machinery, Dongguan, Guangdong, China
- Mr. Qinglu Li, CEO at Sixiang Science and Technologies, Beijing, China



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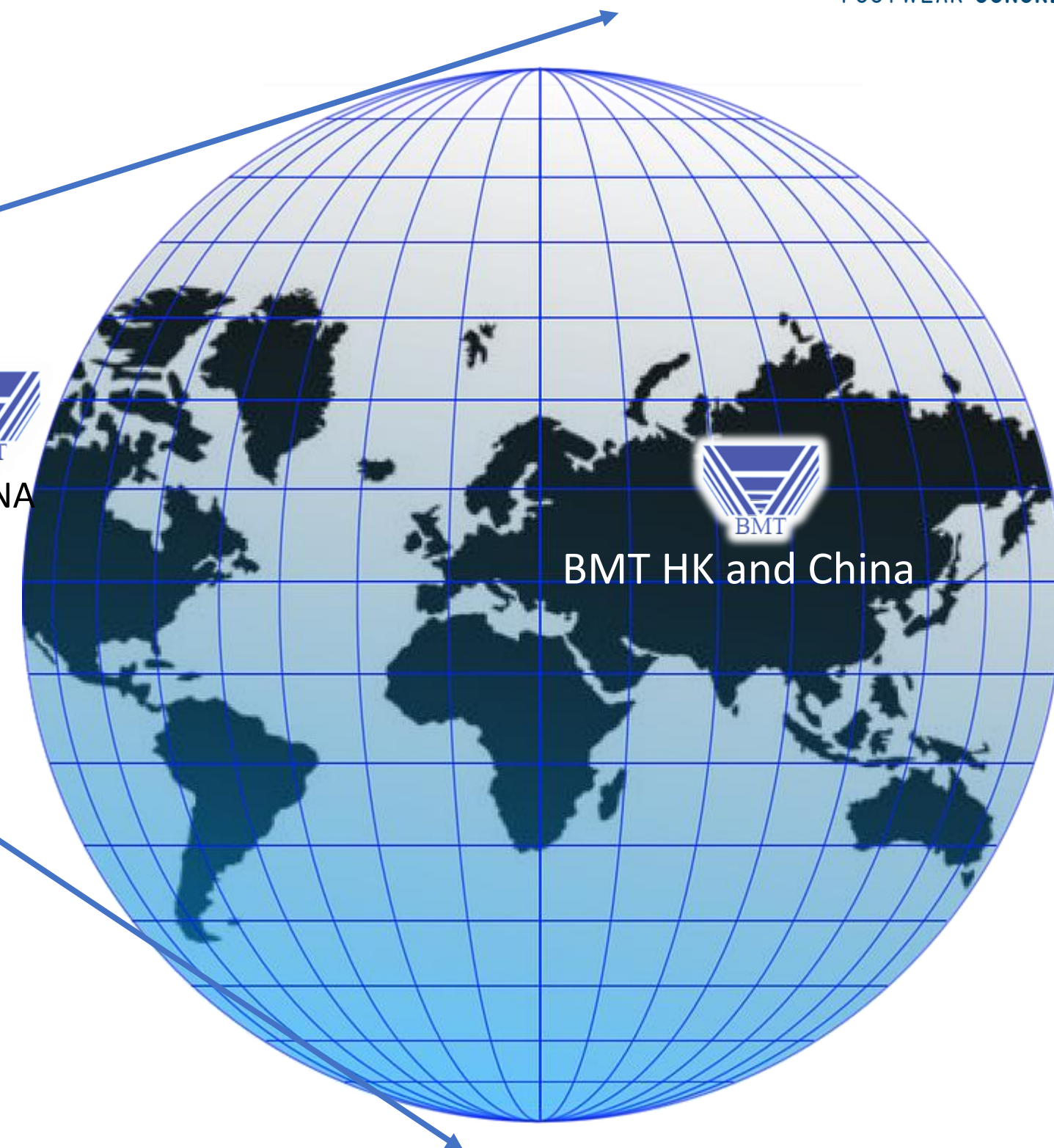
- Introduction-our project
- Custom Made Footwear – a Historic View
- Mass Custom Made Footwear – the Barriers
- Mass Custom Made Footwear – Progress Made in China
- Mass Custom Made Footwear – Connect the Dots – Our project again
- Questions

Introduction

Global villager



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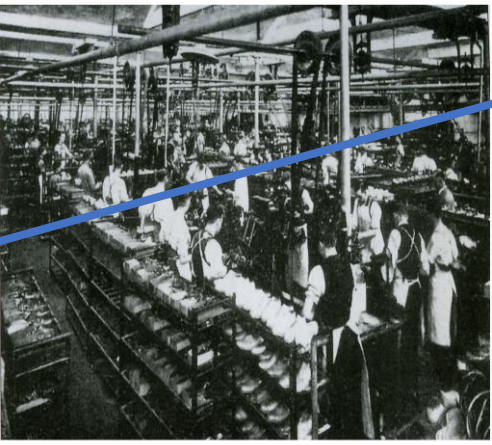
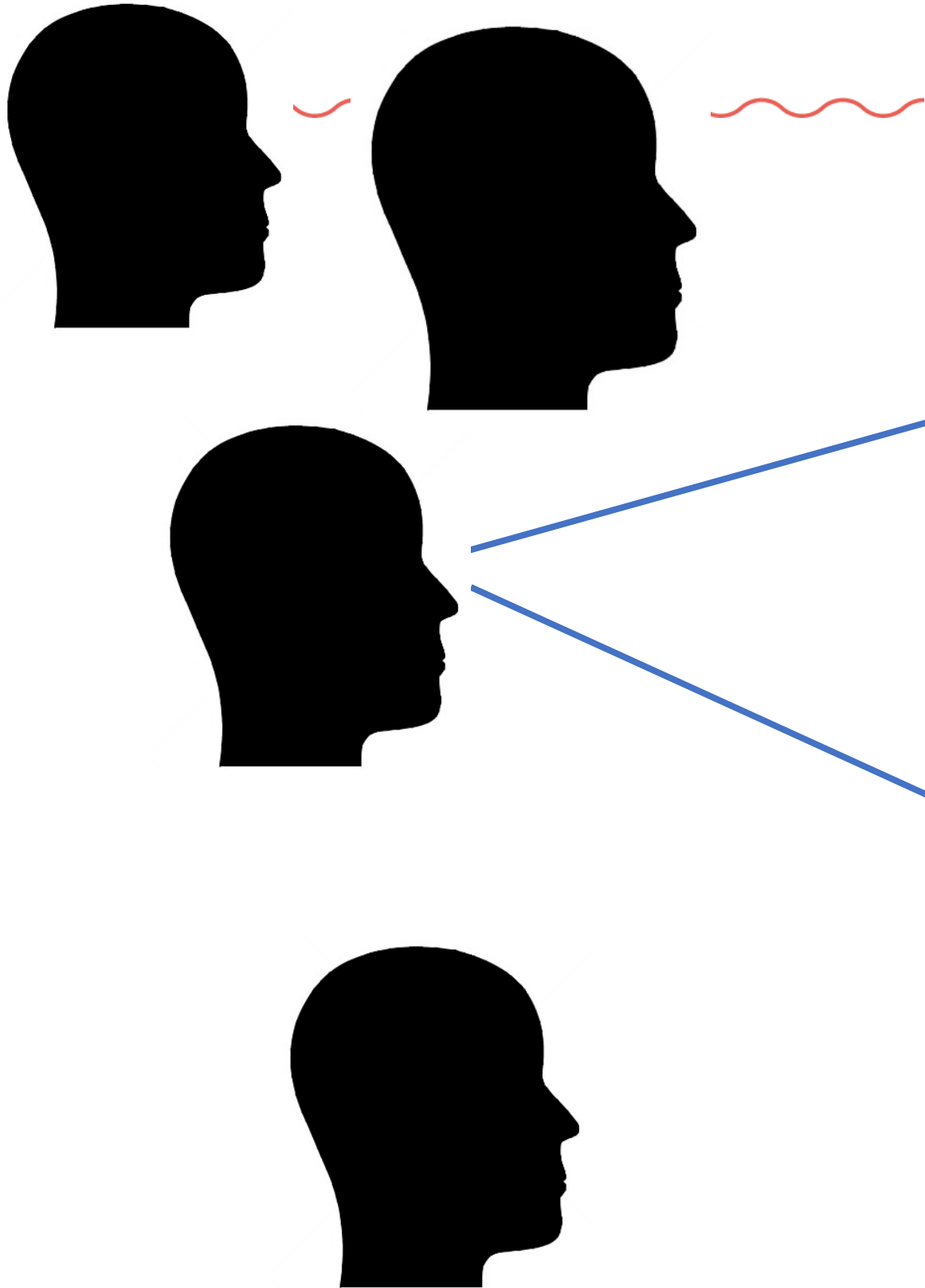
Let everyone in the global village buy footwear custom to his feet easier, faster, cheaper

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Manufacturers all over the world

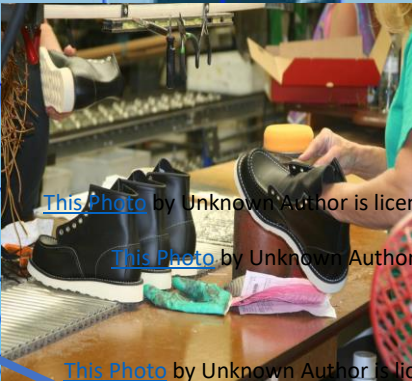
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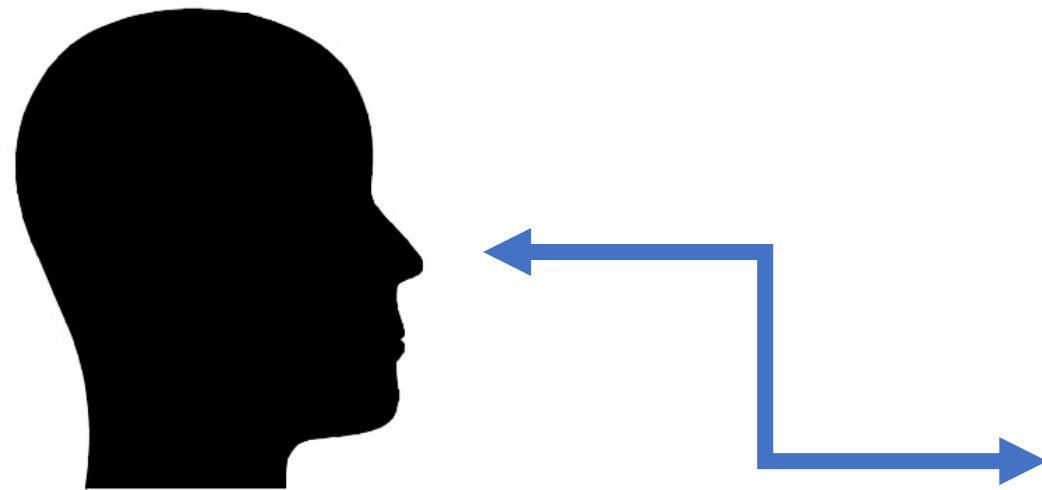


Our Project

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Footwear C2“M”



Capacity:
Product Creation
Manufacturing
Services

Business Model:
Make-to-Order
Make-to-Measure



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Custom Made Footwear – A Historic View





Digitoe Unveils Foot Imaging Technology

" Shoe Tech 1995 "
Boston

By 1995 Digitoe had built the world's first successful Digital Foot Scanner, and perfected the technology for making Computer Generated Individual Shoe Lasts.



" Room Service "

Tour of a Mobile "Retail Fitting Center"
Designed and Built by Digitoe.

2 Minutes

1998 - DigiLast - First in World to Create
3D Printed Shoe Last



DigiLast Began as a Dream of the Shoemaker - 1985

Custom shoes by
local shoemaker
on their personal
wooden shoes

1900's

Between 1995 and 1999 almost all of the remaining shoe manufacturing facilities in North America that were owned and managed by the major shoe companies had closed down, and they moved their production off shore.

Custom Made Footwear – A Historic View

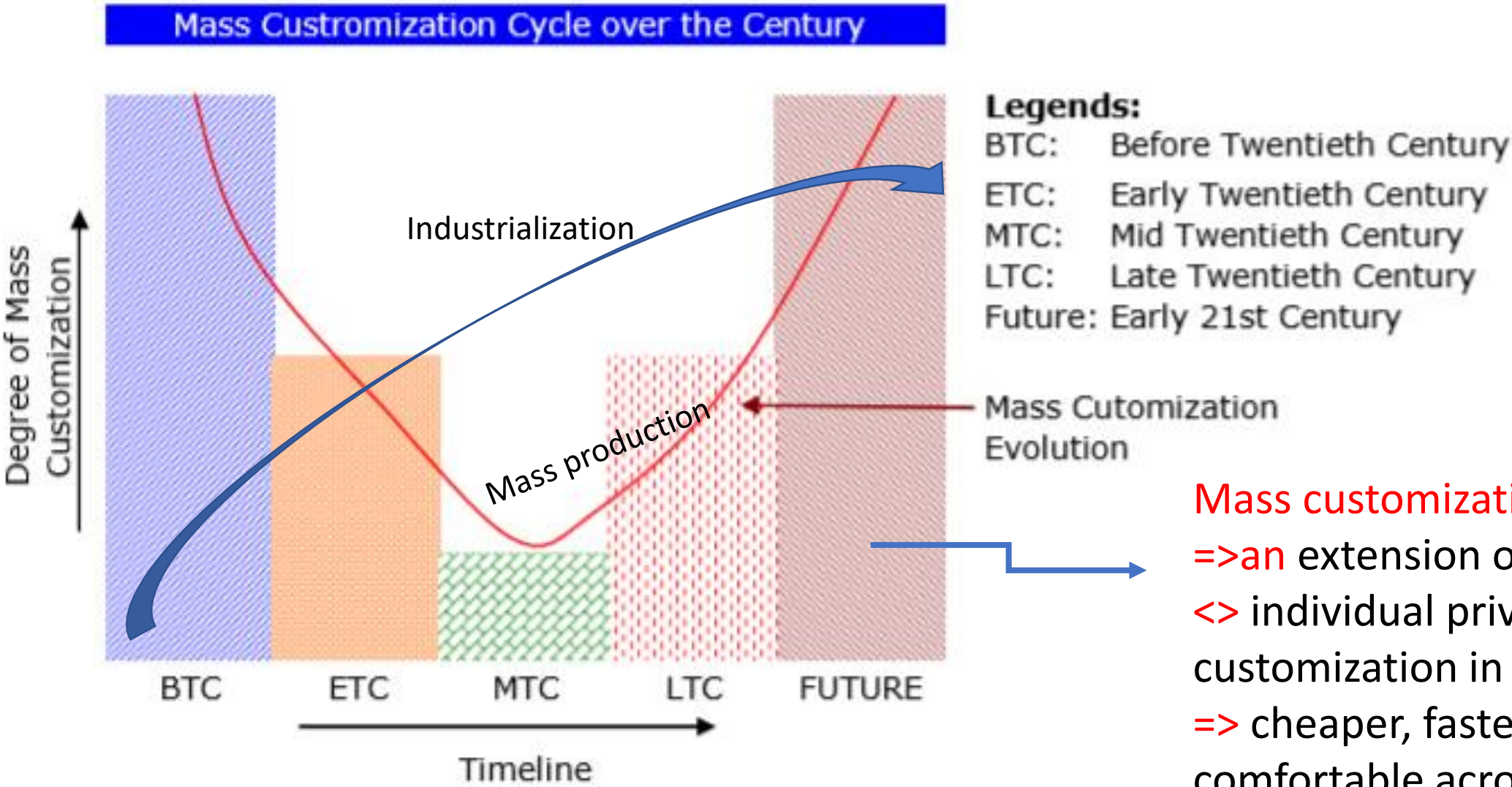
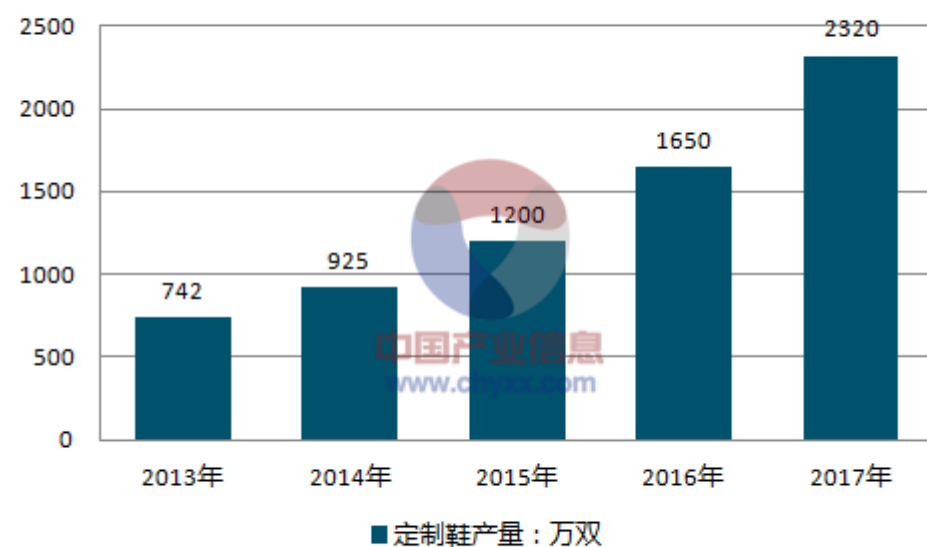


Fig 1: Evolution of Mass Customization

Courtesy of Amit Bhatia
Rahul G Asai, "Whitepaper: Mass Customization in Apparel & Footwear Industry– Today's Strategy, Future's Necessity "

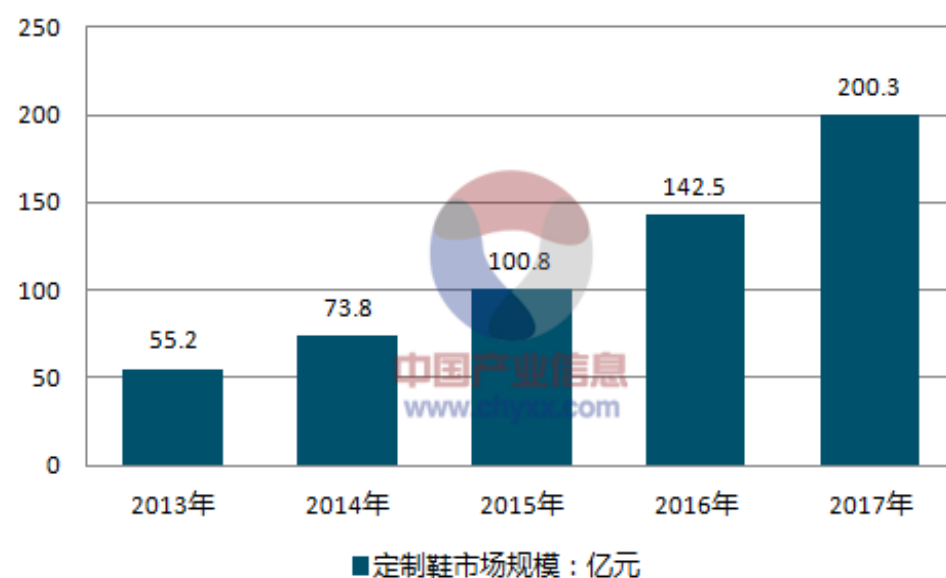
China market in the past 5 years

2013-2017 China customized footwear production volume

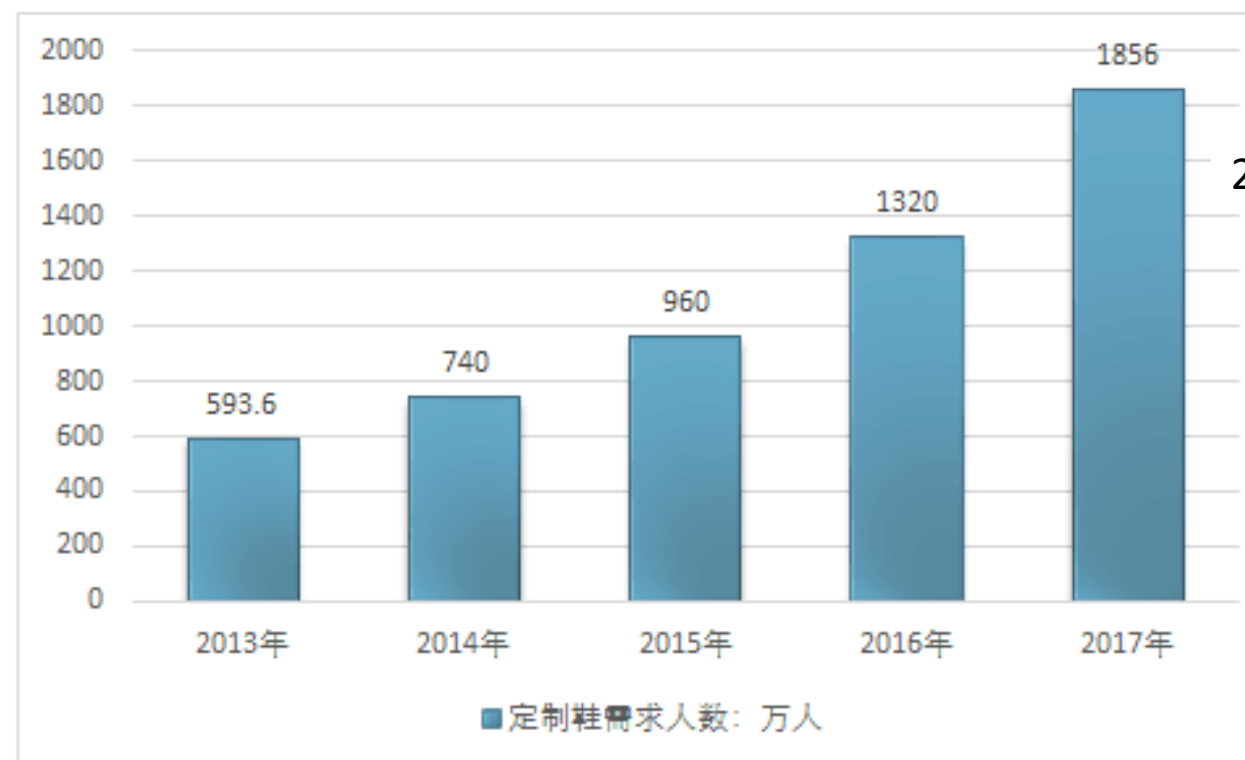


资料来源：智研咨询整理

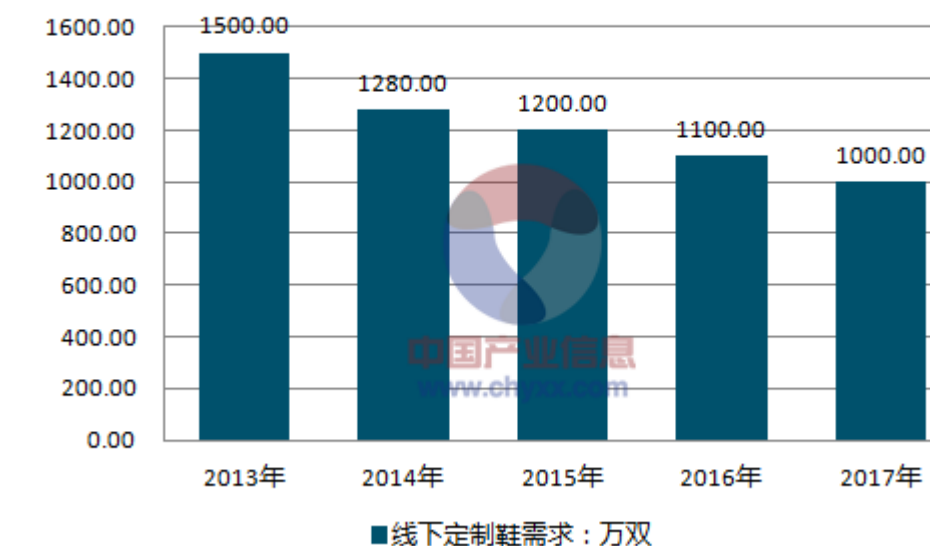
2013-2017 China market size for customized footwear



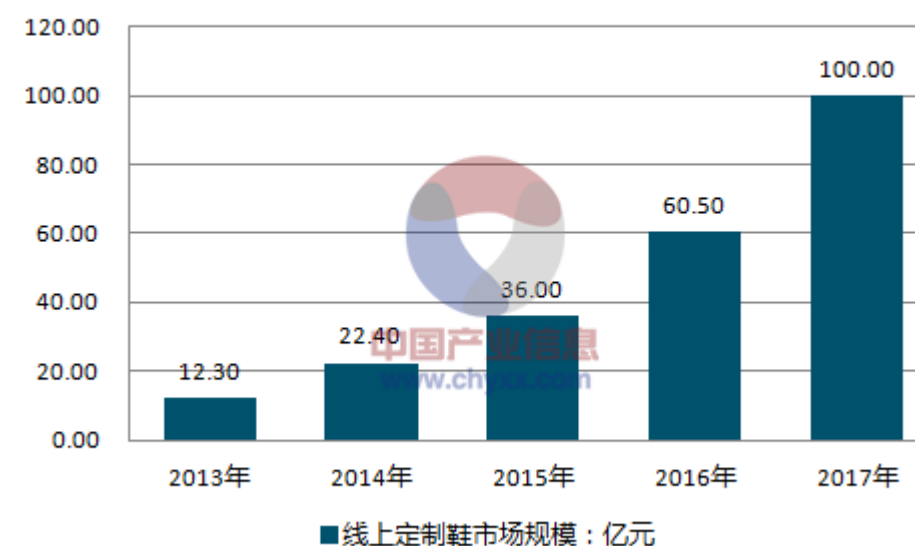
2013-2017 China consumer demand of customized footwear
By number of people



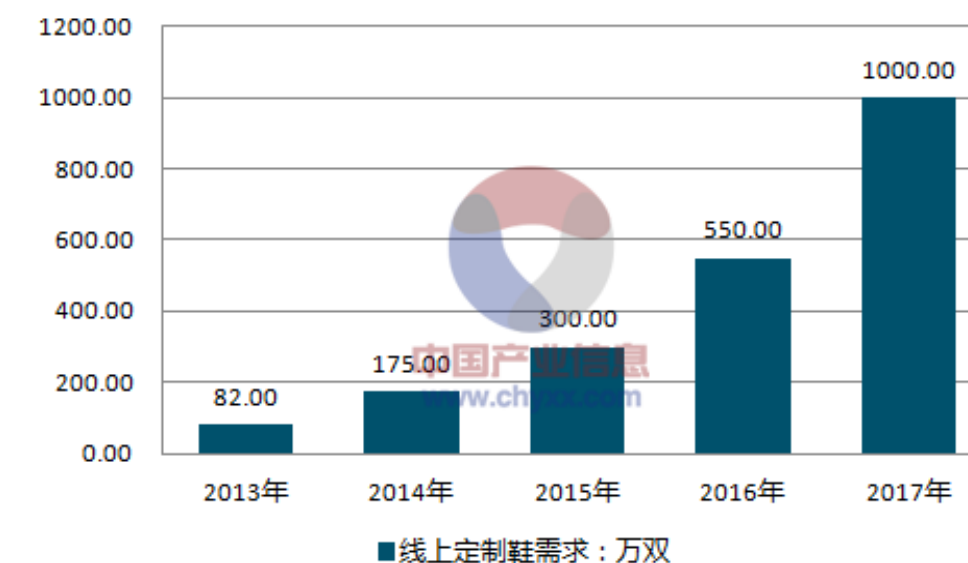
2013-2017 China demand for offline customized footwear



2013-2017 China market size for online customized footwear



2013-2017 China demand for online customized footwear



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Mass Custom Made Footwear – the Barriers

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Lack of standardnariztion

Asia / #BigBusiness

AUG 15, 2016 @ 11:08 PM

Redcollar Data:

China's Suit Maker Redcollar Blazes Trail For Mass Made-To-Measure

[Redcollar Intro video](#)

There are some good news for those unwilling to compromise their taste. Qingdao-based apparel maker Redcollar Group, specializing in men's suits, claims to have brought down the cost for made-to-measure to only 10% higher than that for mass production, selling at prices lower than those for most high-end off-the-rack suits.

Inside a "magic bus" showcased in Qingdao, Shandong, customers change into a disposable leotard, stand in front of a light beam measuring apparatus for a few seconds, and get their measurements collected for a custom-made suit. Ten buses have been launched in the city since last December. Make an appointment and one of those will drive up to your door. This is part of Redcollar's "customer to manufacturer" data system – or C2M as they call it – that fuels the

Cost to Made-to-Measure:

10% higher than mass production

Price:

lower than most of the high-end off the rack suit

Headcounts:

30% reduction

Delivery time:

10 days (with 7 days of making) compared with up to 6 months

Technology: Spent more than \$40 million for the C2M system since 2003

Progress Made in China – Footwear 3D DIY

Consumer End

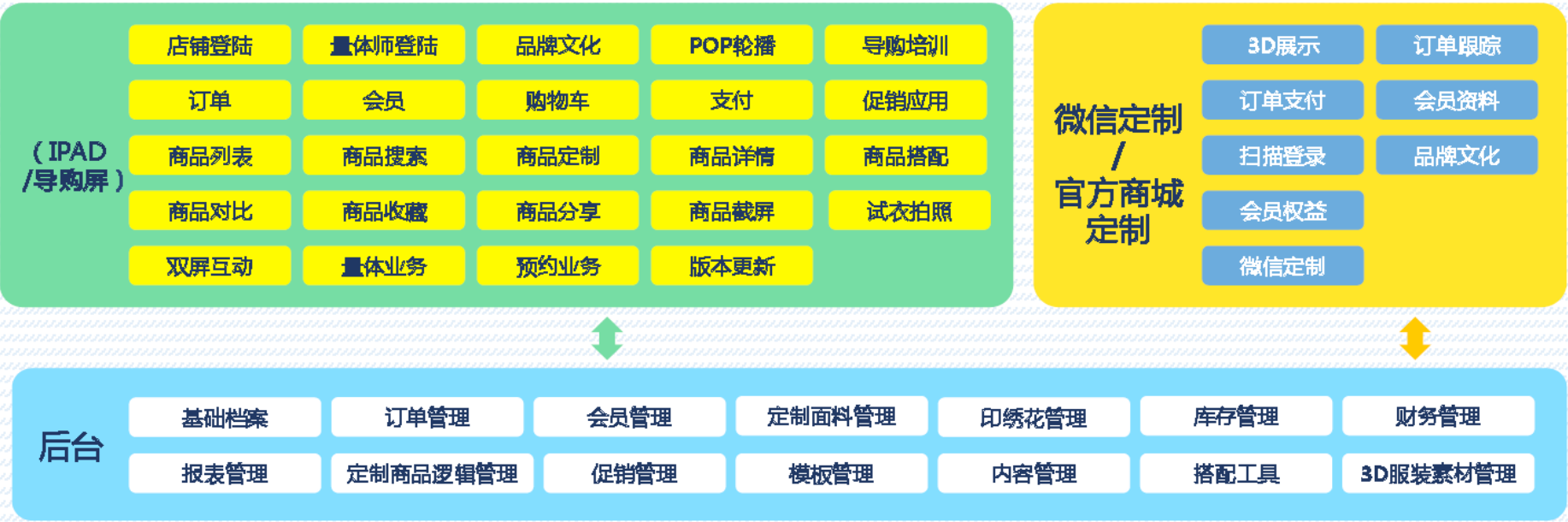
- Online
 - 3D DIY



Progress Made in China – Footwear ordering in-store or remote

Consumer End

- Offline
 - Retail Store Multi-touch screen
 - Remote anywhere Mobile 360 degree experience



- ◆ 移动端的快速定制触点
- ◆ 360°展示的3D定制体验
- ◆ 实现随时随地的定制消费
- ◆ 同步导购屏、PC、门店等多触点数据，实现云端数据共享；



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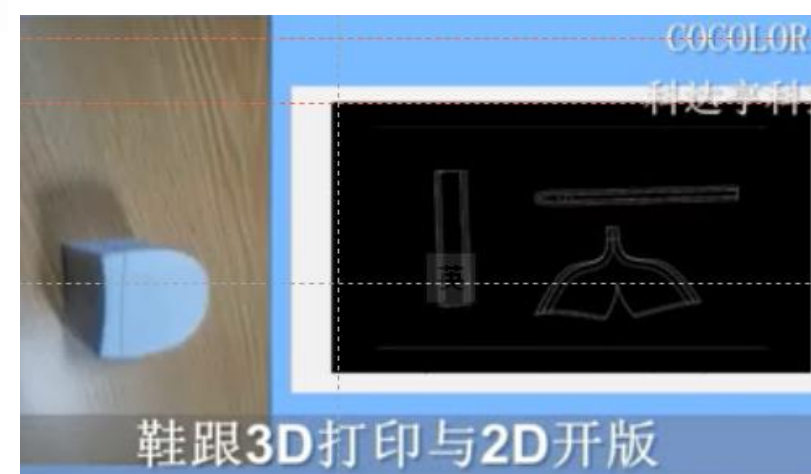
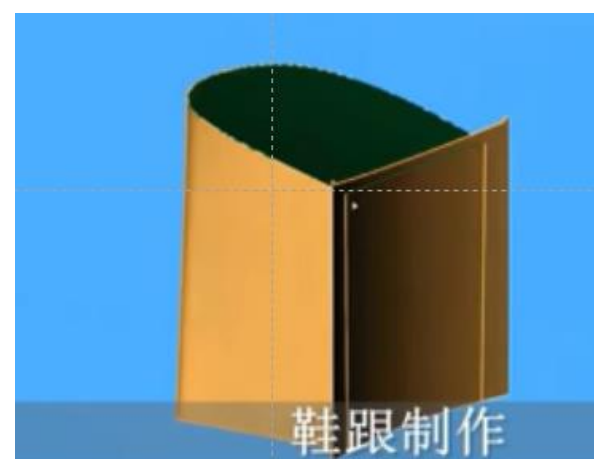
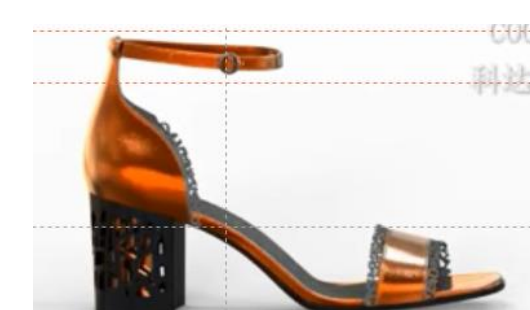
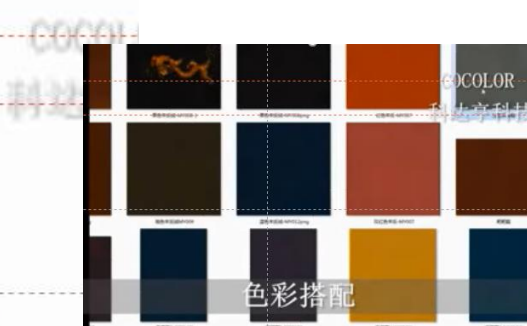
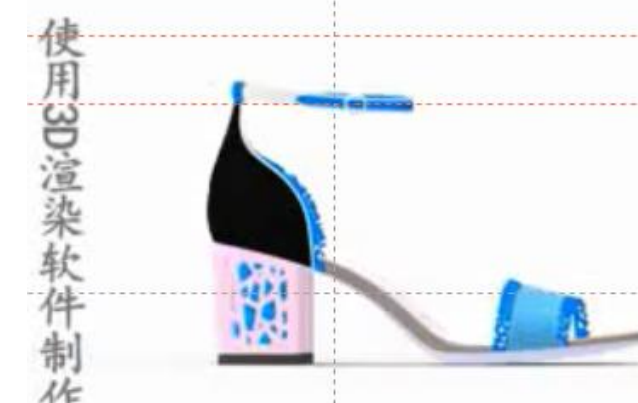
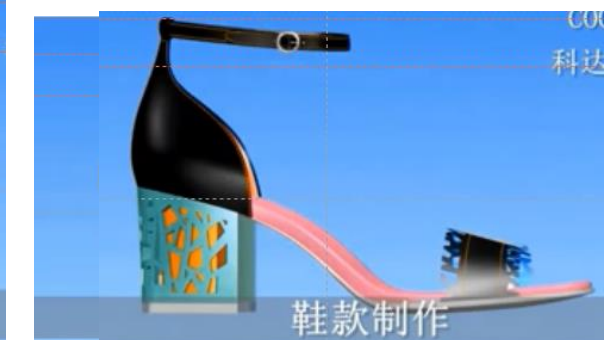
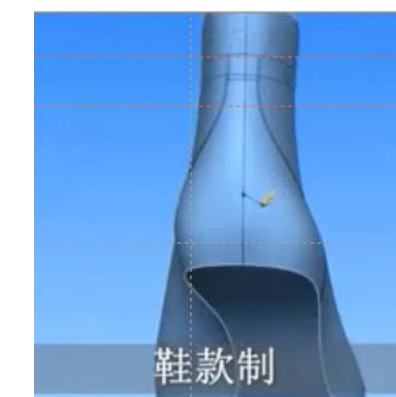
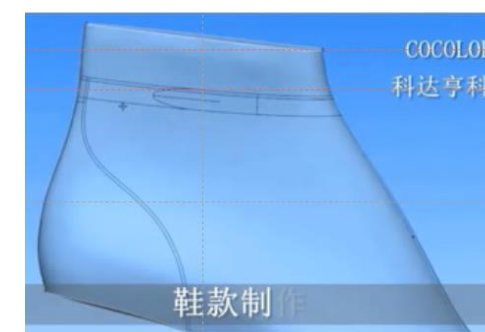
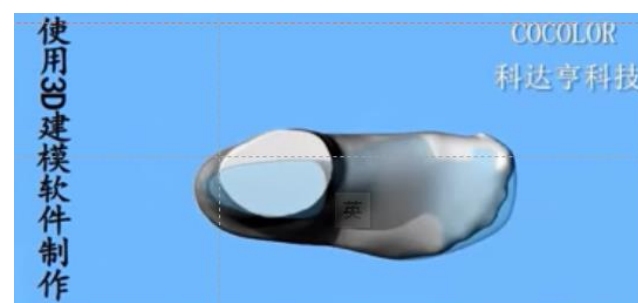
Progress Made in China – Engineer to Order

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Design and Development



*Courtesy of Ke Da Heng Technologies (科达亨)

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Video courtesy of Ke Da Hen, China

Progress Made in China – Need for Standardization

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- Standardized Customization
- Easier to operate
- Data matching
- Comfort level must be proved and improved via big data
- Delivery time

业内观点

标准化定制是未来

“首先，定制肯定是未来趋势，但是，是不是一定要私人定制，我觉得行业不一定如想象中那么完美”。美中鞋业网总经理龙小杰表示，私人定制意味什么？3D仪器扫描、手工定制，其实难点很大，这是过度定制，标准化定制才是未来。

鞋子标准化定制操作，相较于私人定制更容易操作。首先，根据脚长确定码数，过去做鞋子没有41.5码，现在定制可以做这样的码数，更适合顾客脚，那么这个是不是往私人定制走？其实是多了选择，让消费者穿得更加舒服。

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经验值需要海量的数据来论证，尽管鞋子不像机器一样要求精准，但是哪一双最舒服还是要论证。在他看来，大红象公司的定制鞋利用线上平台，就可以收集大数据，“我有你的数据、你穿鞋的体验，有客服进行沟通，在周期和过程积累下，就会越来越合适”。而一旦有标准化的经验值出来，所有的企业都能够应用，那么定制的市场会更快速

私人定制：鞋企能否突围成功

本土鞋企根据“特长”改进定制鞋模式，推进自有品牌攻占市场

私人定制，最近年来不少商家纷纷尝试，但成效如何？
据业界人士“鞋业”网站近日报道，目前私人定制市场，仍以定制鞋为主。定制鞋市场，目前仍处于探索阶段，但已出现了一些苗头。业内人士认为，未来定制鞋市场，将呈现“定制化”趋势。业内人士认为，未来定制鞋市场，将呈现“定制化”趋势。业内人士认为，未来定制鞋市场，将呈现“定制化”趋势。

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定制鞋在鞋展上吸引了众多参观者，过去鞋业多依赖代工，未来定制鞋将成为突围之道。

定制鞋

讯社鞋业 出货周期要缩短至2-5天，价格要能让消费者接受

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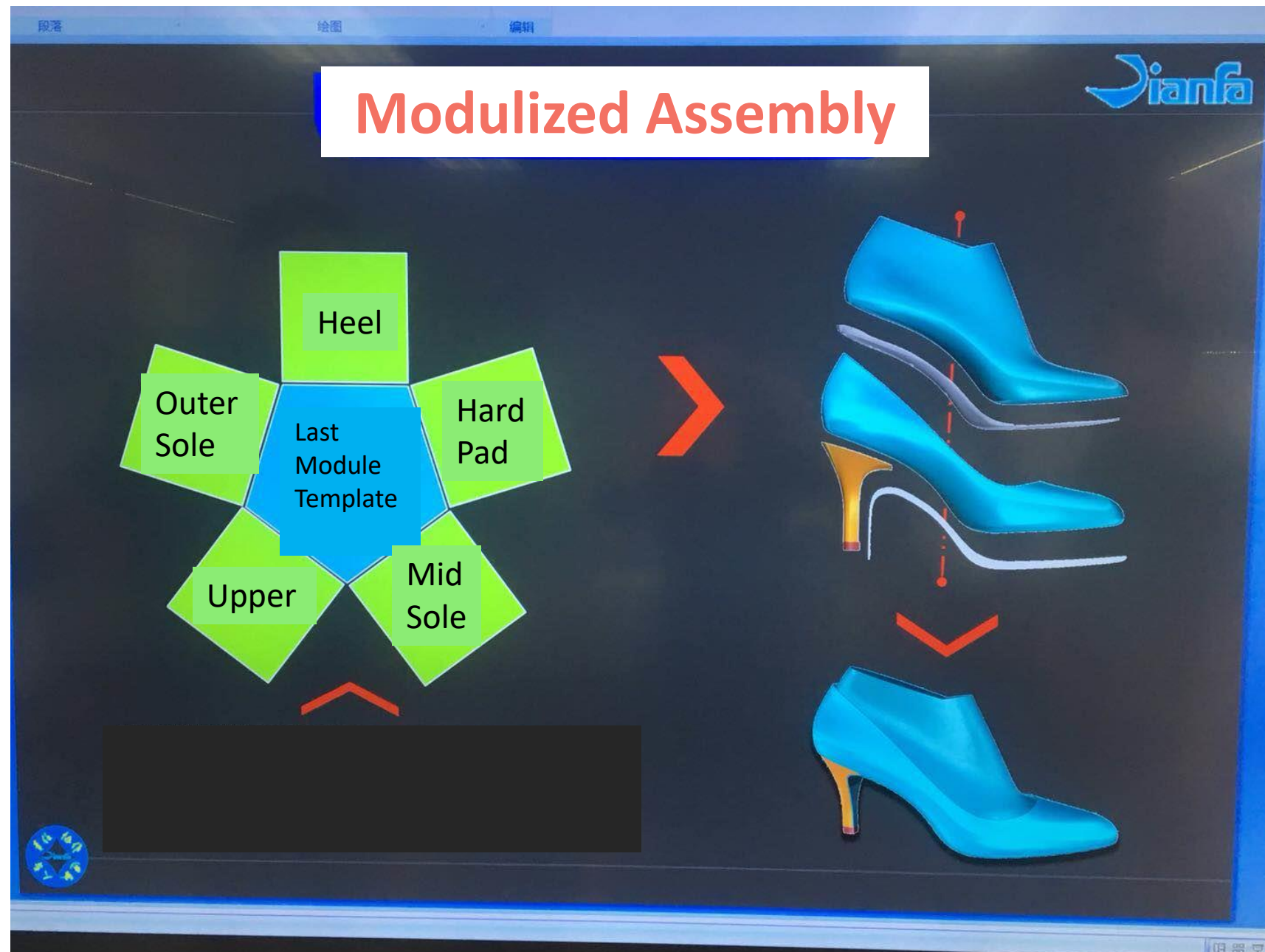
Progress Made in China – Need for standardization

Design and Development

One last, One heel, One style, 108 sets of data
for women's high heel shoes

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*Source from Jianfa Last, China and translated by BM Technology

Progress Made in China – An approach found for standardization

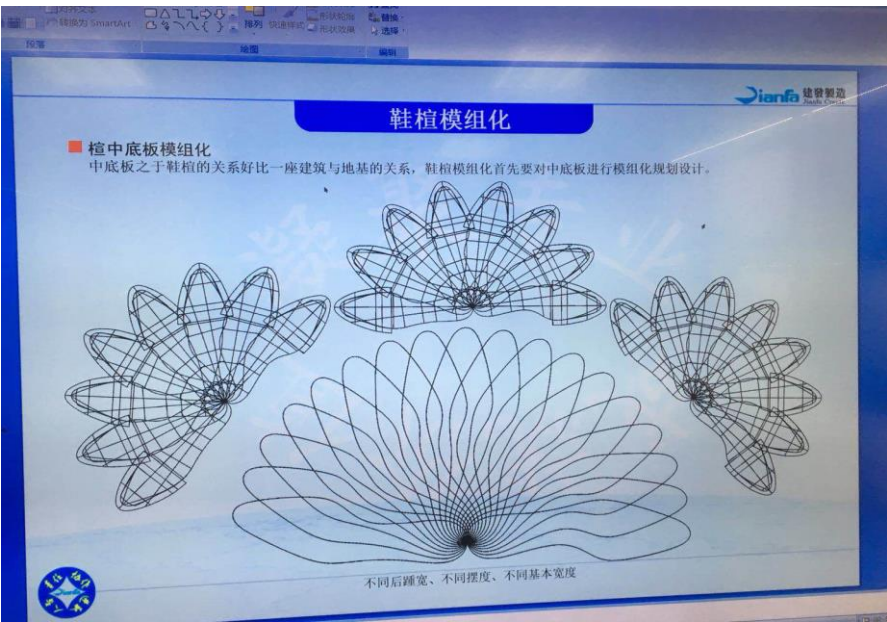
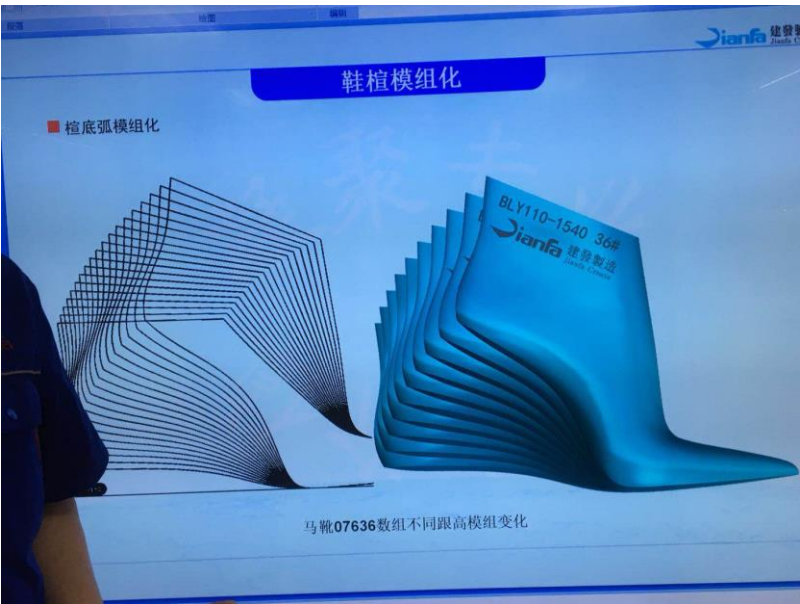
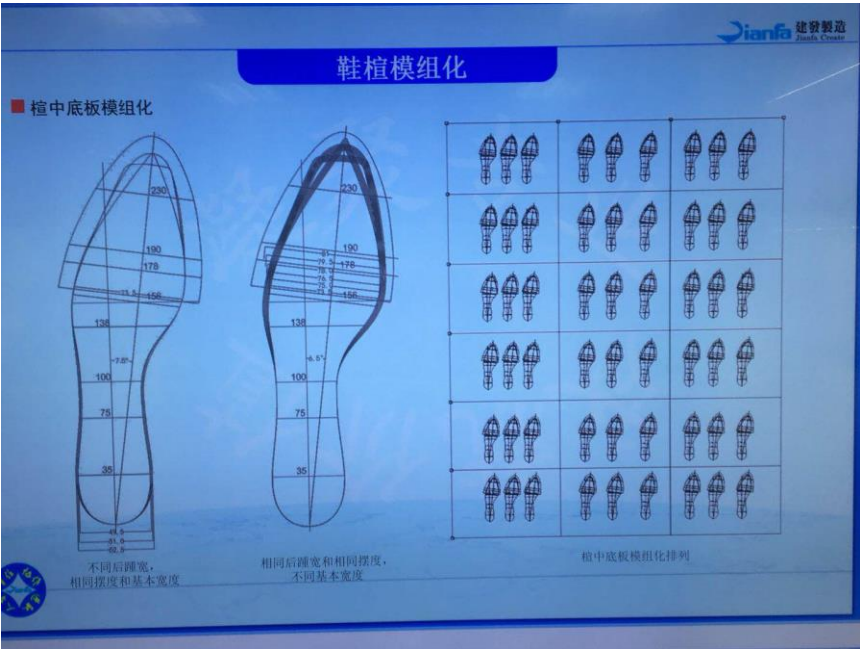
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Design and Development

One last, One heel, One style,
108 sets of data for women's
high heel shoes

*by Jianfa Last, China



Progress Made in China – Cutting machine for small batch of leather

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Smart factory solutions

EMMA Computerized Small Batch
Leather Cutting Machine
for Sample Room



EMMA 3D Foot Laser Scanning Machine

*Source courtesy of Mr Wang Guoquan, EMMA CEO, China

Progress Made in China – Watching Robots assembling Shoes

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Smart factory solutions

Driven by Industry 4.0 and China Manufacturing 2025,

- Assembling production line by configurable robots for small batch of shoes



*Video source in courtesy of Yili , Dongguan, China

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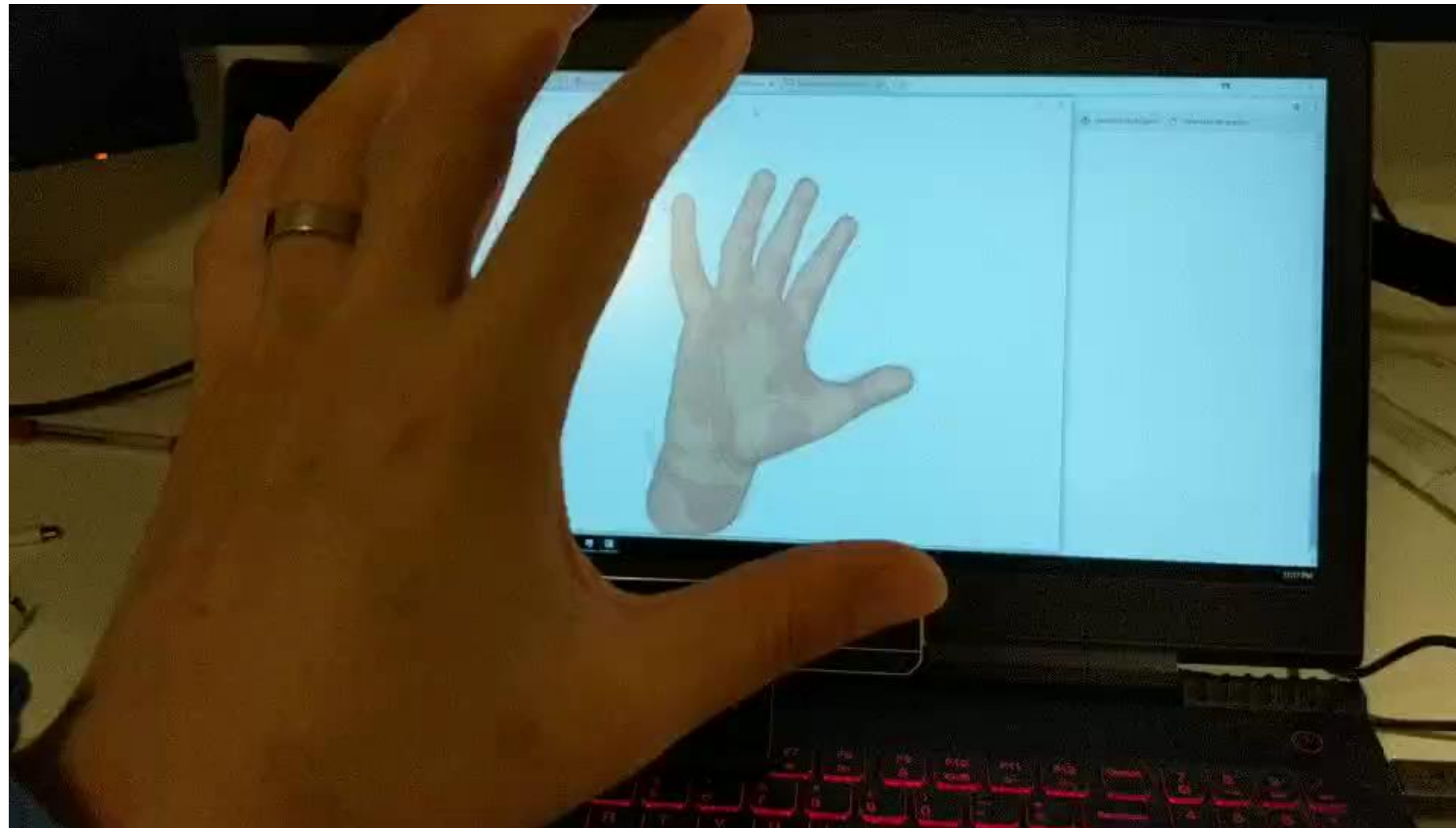


Video courtesy of Yili China

Progress Made in China -Trend and Vision-AI

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Machine Vision

Courtesy to Mr. Li Qinglu



Trend and Vision- Transboundary Customer Requirements



*Courtesy of Mr. Li Qinglu (Sixiang Science and Technology),
and Mr. Wang from Dr. Shoes.

Connect the Dots – Our project: an End2End Cloud

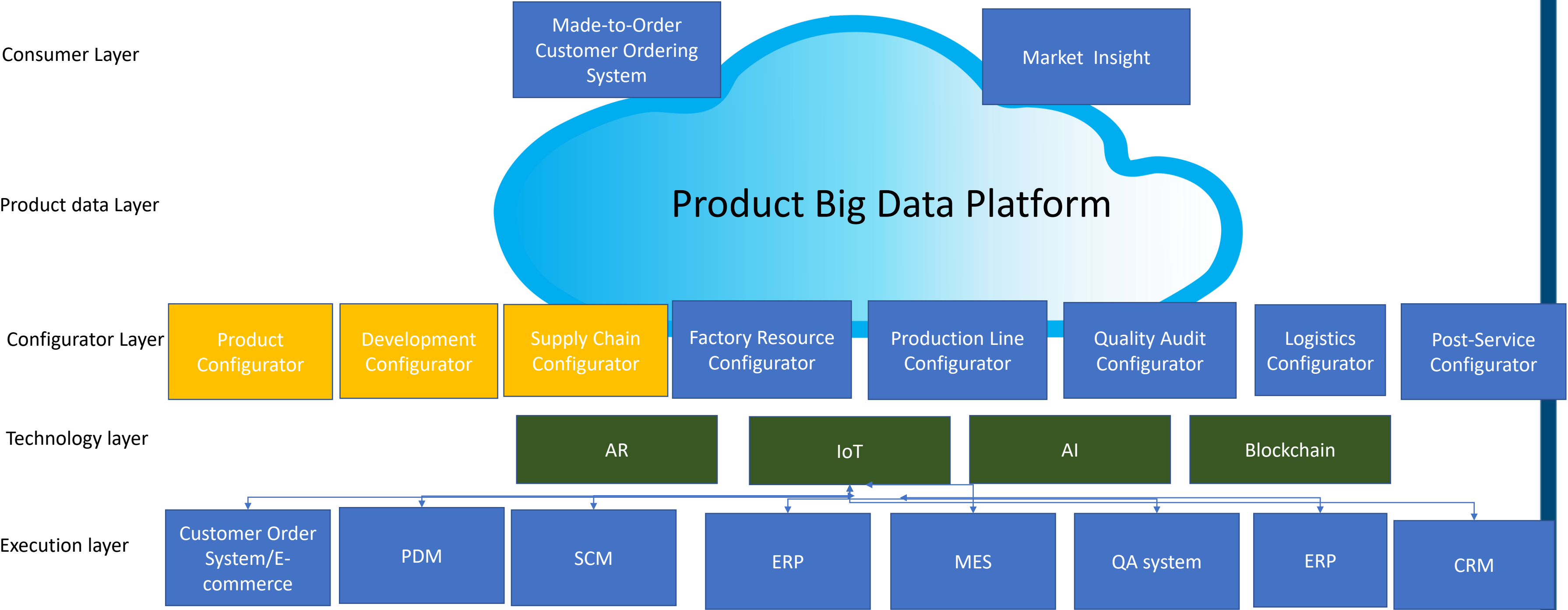
Aims at



- Standardization
- Configurability
- Ad Hoc shoe types
- Comfort level
- Flexible in response to changes
- Digital content ownership
- Product authenticity and authentication
- Smart contract
- Close loop customization experience

Connect the Dots – Our Project: Empower the C and the M

The M is a cloud of product demand/supply value chain



Our Footwear C2M Solution –Supported with IoT and AI

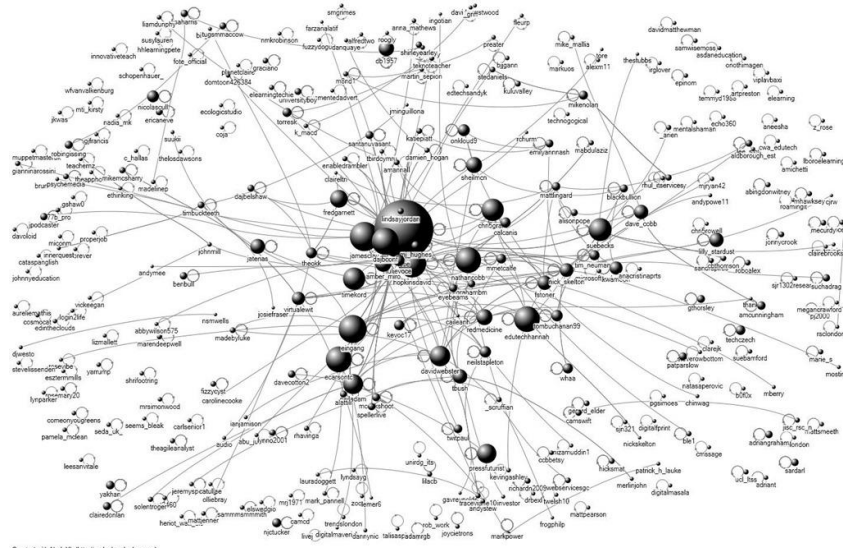
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Connected Stores



Connected Factories



Dashboard Analytical Result



Connected customer



Connected System

Our Footwear C2M Solution –Supported with Blockchain



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Consumer Requirement Ownership

Digital Content Ownership

Product Authentication

Smart Contract in Global Trade

Contribution in the Product Value Chain

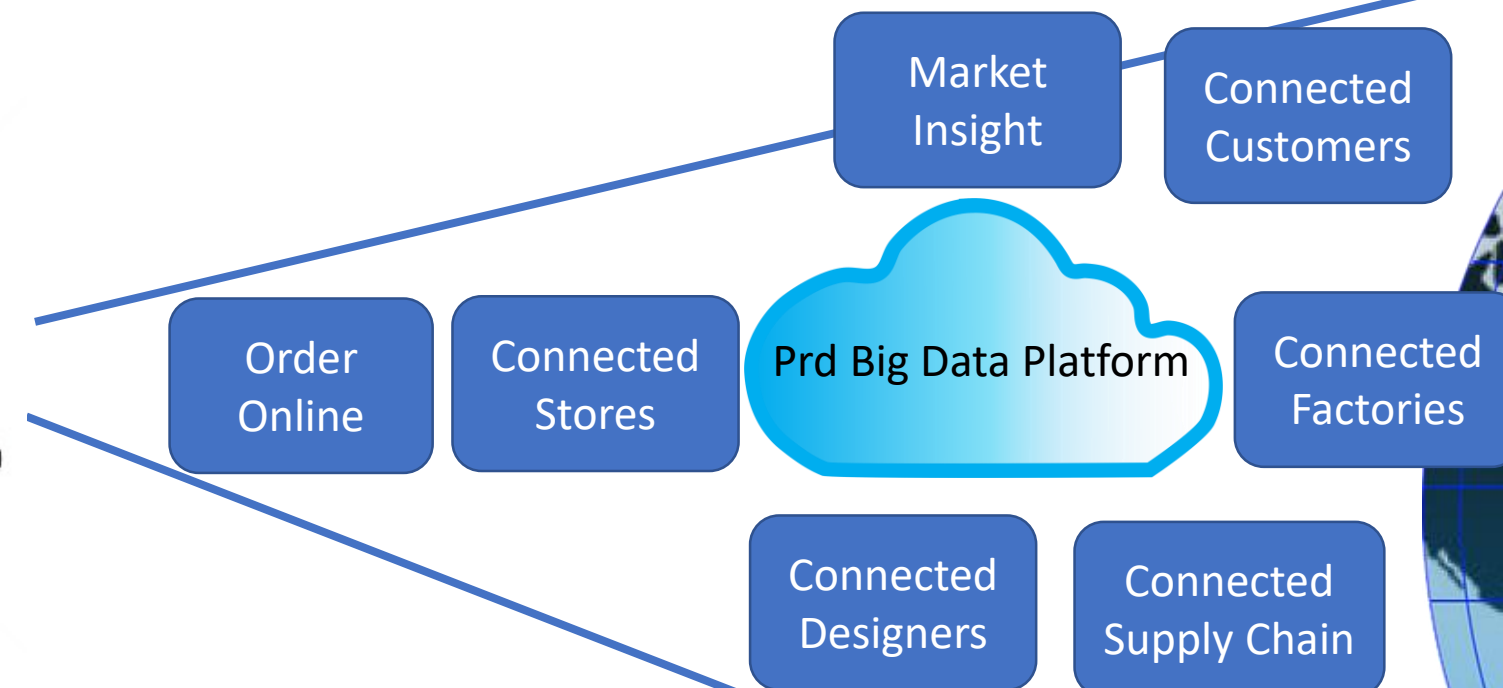
3 Key Takeaways:

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1. End2end close loop -- easier
2. Standardization – faster and cheaper
3. Internet of Value – trusted experience

Mass Custom Made Footwear - Questions

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Thank You

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