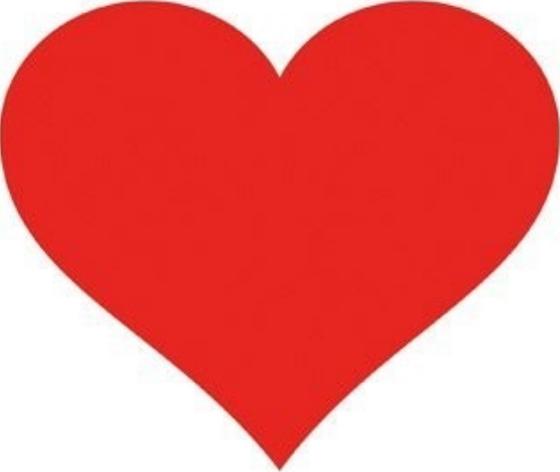


**2021
Why**

I 
PLM

I make it no secret that I want to see Manufacturing return to its much needed domestic shores and more so after the exposed deficiencies in domestic manufacturing over the last 15 months.

Anything of reasonable quality is wanted quicker and more personalized.

Batches of One?

Maybe, I'm unsure of that for a good few years, but at least, we need for now some customization to fit the consumer needs or wants.

And then quicker?

Think about that online purchase; you've done your search, found what you want and it says it'll take 72hrs to be delivered - let's be honest, we now change our mind and go elsewhere don't we?

At least that's what the statistics are showing. 24hrs is good, 48 is OK, 72 is forget it!

There's no sense in stockpiling when people are customizing and so our manufacturing processes need to change along with our supply chains. I say, bring back manufacturing to the domestic shores, as many are doing already.

The 4th Industrial Revolution demands an expanded and upgraded version of the Product & Service Lifecycle. Industry4.0 Technology rests on the advancement of PLM

Let's look at how that might happen..





Macro advancement

Meeting local demands means enhancing the operational and information technology in your manufacturing operations:

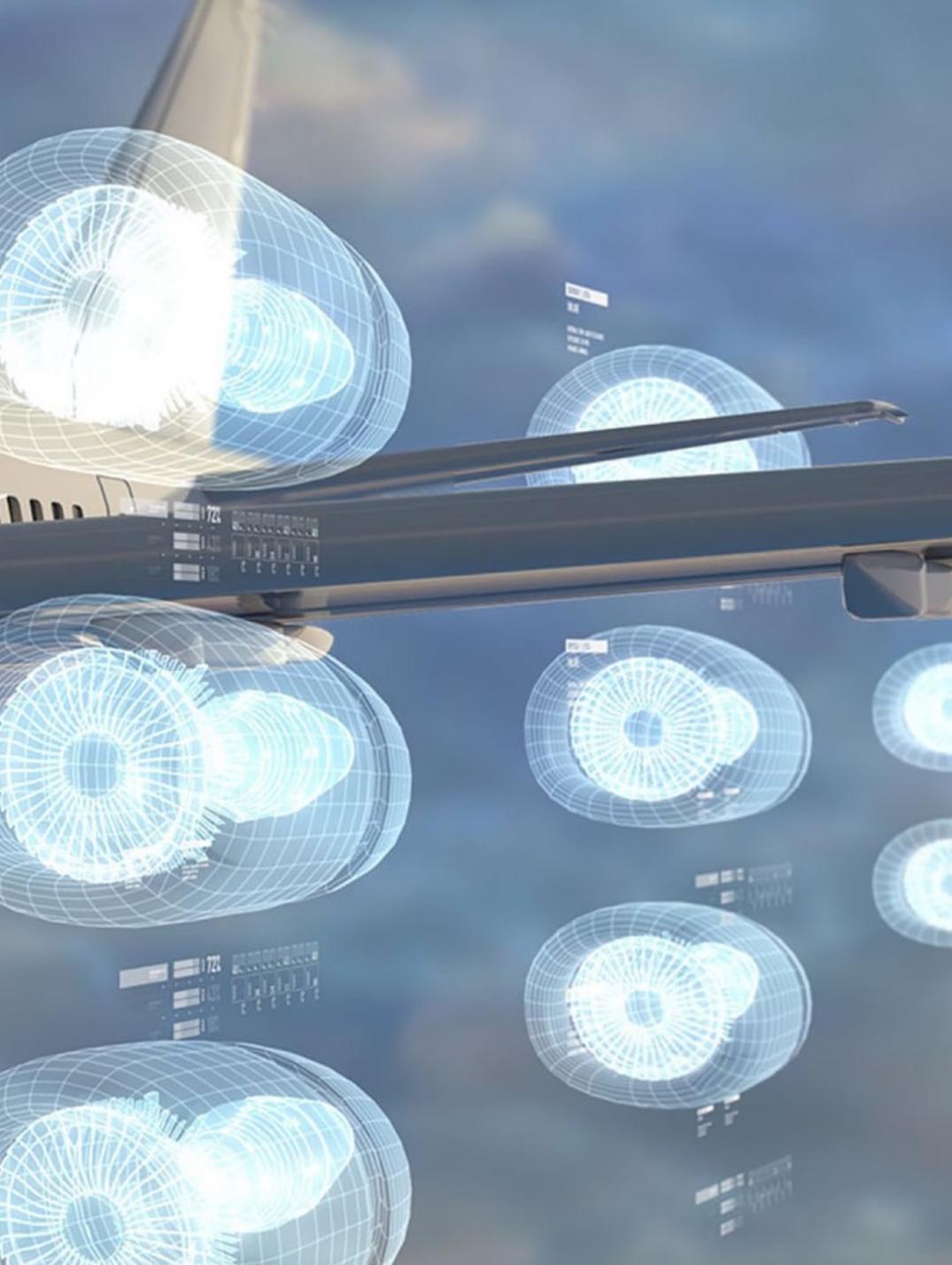
Merging the physical and digital worlds, through realtime simulation tools (The Digital Twin)

Software Solution support and products for the IoT and M2M communications

Interaction from the edge, to cloud and big data analytics

Additive Manufacturing

So how will PLM support these exciting new technologies?



What is PLM?

Product lifecycle management is the handling of your product as it moves through the typical stages of envisioning, design, development/simulation, manufacture, maintenance and decline/disposal/recycle.

I always enjoy a good conversation around those PLM headaches: New Product Introduction, Engineering Change, Variant Management and the various BOMs, but let's not lose sight of why we do what we should do in PLM

Effective product life cycle management brings together the many companies, departments and employees involved with the product's production to streamline their activities, with the ultimate goal of producing a product that delivers the original vision.

Good PLM should deliver:

the product to market faster, a higher quality product into the market, improved product safety and reduced errors and waste.

Specialized computer software is available to assist with PLM through functions such as document management, design integration and process management.

Industry 4.0 & The 4IR

It's just a matter of when, not if - everyone who survives the 4th Industrial Revolution will change their culture first, adopt the technologies second and move to offense: product innovation third.

I've been through many keynote speeches during which the speaker likes to say it's an "evolution" not Revolution in order to not scare conservative business people from taking a step forward. However, the fact is changing how we think of our businesses, how we care for our customers and manufacturer their products is a very big and hard to make step.

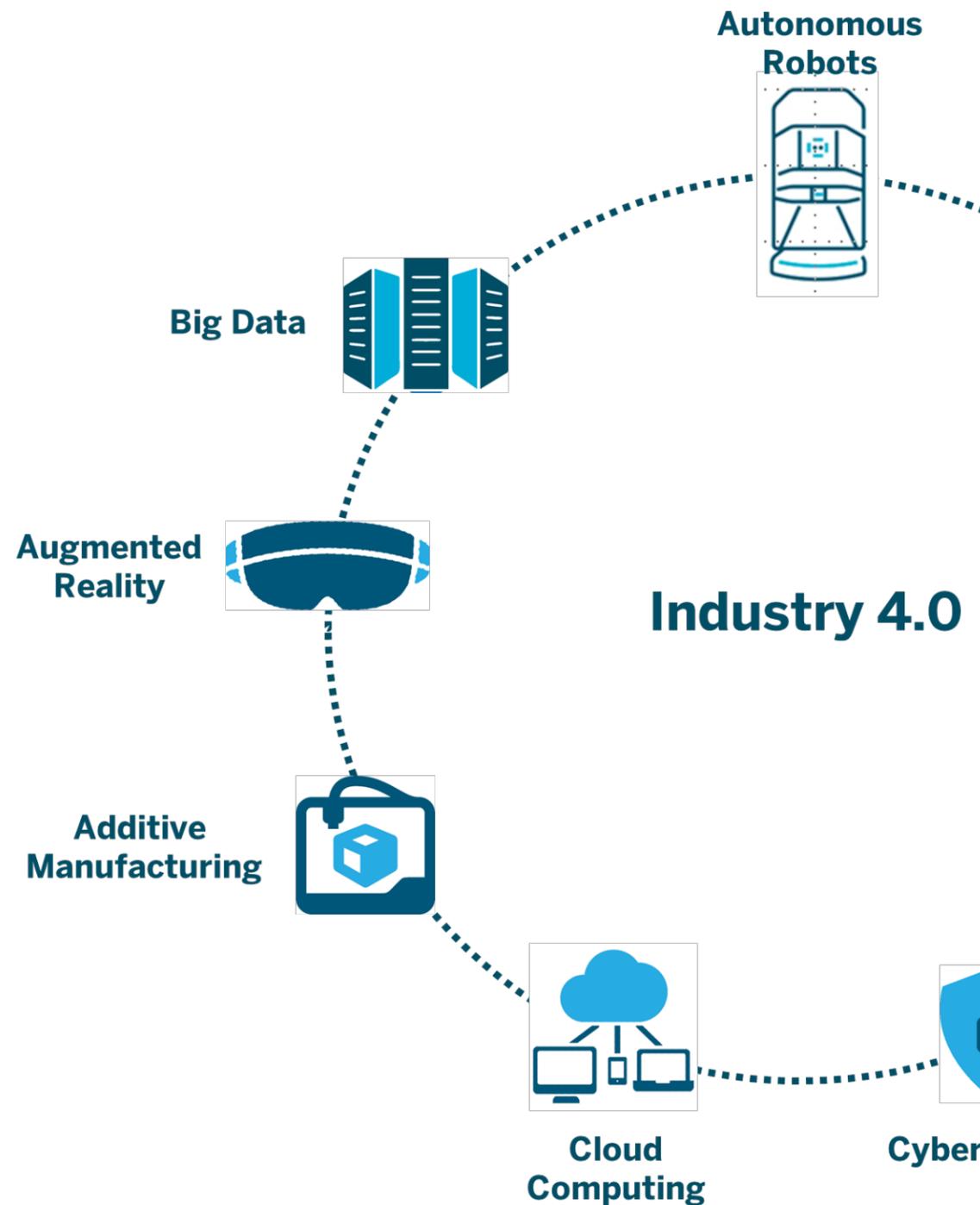
Industry4 is the combining of new / disruptive technologies that are transforming the Manufacturing and Utilities sectors.

These technologies include:

Shop Floor advanced Robotics / Cobots together with Artificial Intelligence,

Machine enablement and maintenance assistance care of Augmented Reality and 3d Additive Manufacturing. BigData is extracted care of the Internet of Things into the Cloud for intense Analytics and enterprise-wide intelligence that's then ultimately looped back to The Digital Twin; a replica of the physical product world Under the Industry 4.0 model, product design and development take place in simulated laboratories and utilize digital fabrication models.

The products themselves take tangible form only after most of the design and engineering problems have been worked out. The networks of machinery that have engendered industrial society become hyper-aware systems of highly flexible technology, responding rapidly not just to human commands but to their own perceptions and self-direction.



PLM 4.0

The Digital Twin

Digital models across the product, its supply chain and service processes are to be provided by PLM. Digital models have been around for some time and are now evolving across numerous products in order to simulate (The Digital Twin) various product types, manufacturing lines and external influences.

PLM provides various authoring systems for a variety of component modes from geometry, electronics, mechanics, build, stress, software and all interdependencies.

The i4.0 technologies provide a closed-loop lifecycle including logistics and servitization. This enables entire simulations of new innovative business models. The challenge remains of course across the world for the adoption of common standards.

PLM 4.0



Loving PLM

Bringing together customer and product intelligence within your PLM systems and strategy has led to several core focuses in order to retain and win new customers:

1. Ultimately customer and Artificial Intelligence leads to configuration intelligence that drives product planning. Customers trust organizations that understand them better.
2. Collaboration via Platformization 4.0 provides ongoing real-time feedback during design and development. Stronger products come from customer and ecosystem focus, less wasted development cycles and greater customer empowerment and satisfaction.
3. Customer Experience (CX): Your company is working on an innovation that you know will attract more customers—but have you asked yourself, how will customers experience the new product? The experience we are talking about here

is the whole experience the customer will have when using your product, from the 1st touch, to purchase through the ownership lifecycle. Before you assign company resources to testing and production, consider how well your company understands the entire customer experience surrounding that innovation.

1. Improve product modeling & manufacturing execution across all your plants through visualization and simulation, care of ultimately the Digital Twin, enabled via IoT across the value chain, including inbound supply chain planning.

PLM is the enabler and optimizer for Industry4.0 and it's fascinating to see how it can drag enterprise and culture into the 4IR.

It's hard to locate anything more exciting and all encompassing than that of Product Lifecycle Management in the 4IR. Product Innovation is the critical success factor.

Always love to hear from you, always love to help
Best wishes, Andrew



Smarter Innovation & Product Lifecycle Management & Manufacturing: People, Teams & Business Solutions enabled through Change & Technology

Sometimes you need a real expert to help decide what's next and sometimes you need an entire team and sometimes you need an entire program delivering.

Delivering the entire PLM & Smart Manufacturing application layer, along with integration to ERP and moving your people to adopt new ways of working, is the holistic approach we take. It's the quality of our people and their experience that makes the difference.

If we can help you through your PLM & Smarter Manufacturing journey, you just have to ask

I'm a huge believer in constant change.

Standing still is going backwards

It starts with People changing their mindsets & Processes, enabled through Technology.

It's the quality of our people and their experience that makes the difference.



You can reach me on: 310-367-4123
asparrow@xdinnovation.com