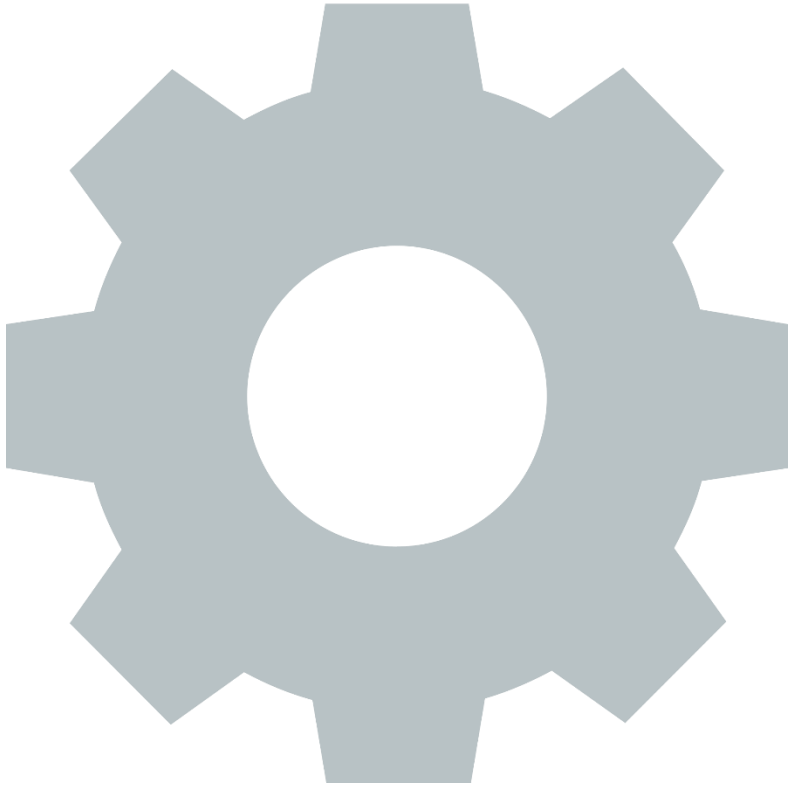
Legacy, Obsolescence, & Their Impacts on Technology & Methods in Digital Enterprise

Fall PLM Meeting
Stephen Collins, CEO, Anark Corporation
November 6th, 2018

Agenda – Key Concepts

- Anark Company Overview
- Review key concepts, benefits & industry trends such as Industry 4.0, Digital Thread, and Model-Based Enterprise (MBE)
- Opportunities and obstacles to achieve modern Digital Enterprise
- Role of legacy data, systems, processes, as well as impact of mergers and mixed data environments.
- Transforming & managing critical engineering, manufacturing and operational data into “fit-for-purpose” technical content that can be consumed on virtually any device along the Digital Thread
- Power and efficiency of connected, web and template-based technical data exchange with “social-media” style commenting and collaboration -- As a modern replacement for conventional ad-hoc, disconnected, legacy modes of data exchange and communication.



Anark Company Overview

Anark Corporation

Leading provider of technical enterprise content management (ECM) software and solutions, with visual collaboration for enterprise manufacturing.

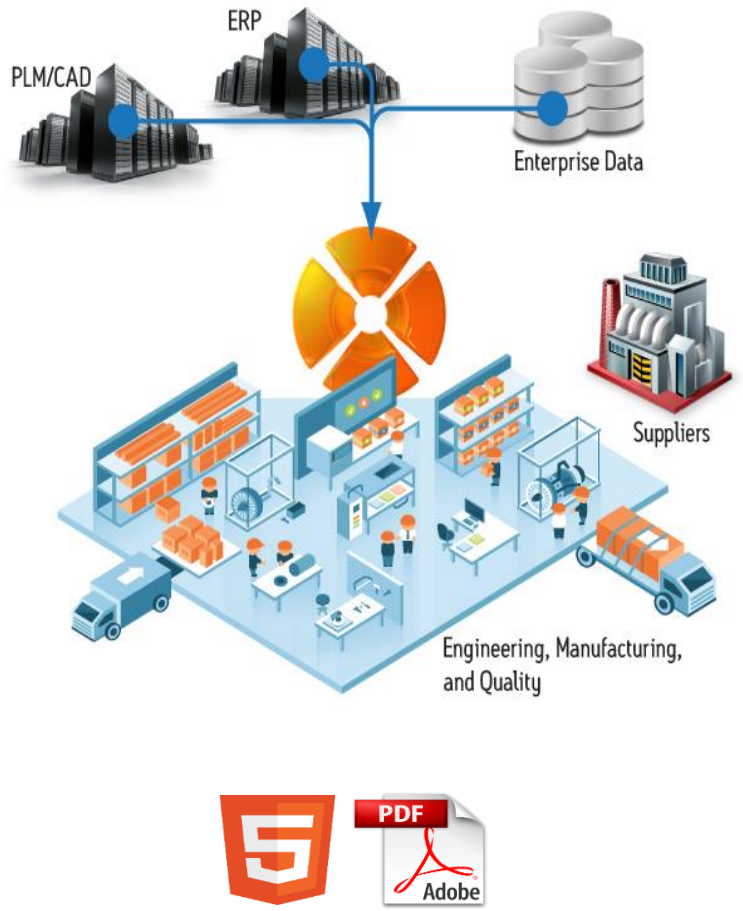
Empowering the MBE and Digital Thread revolution within A&D, Energy, Industrial, High Tech, Automotive, and Medical Equipment Sectors.

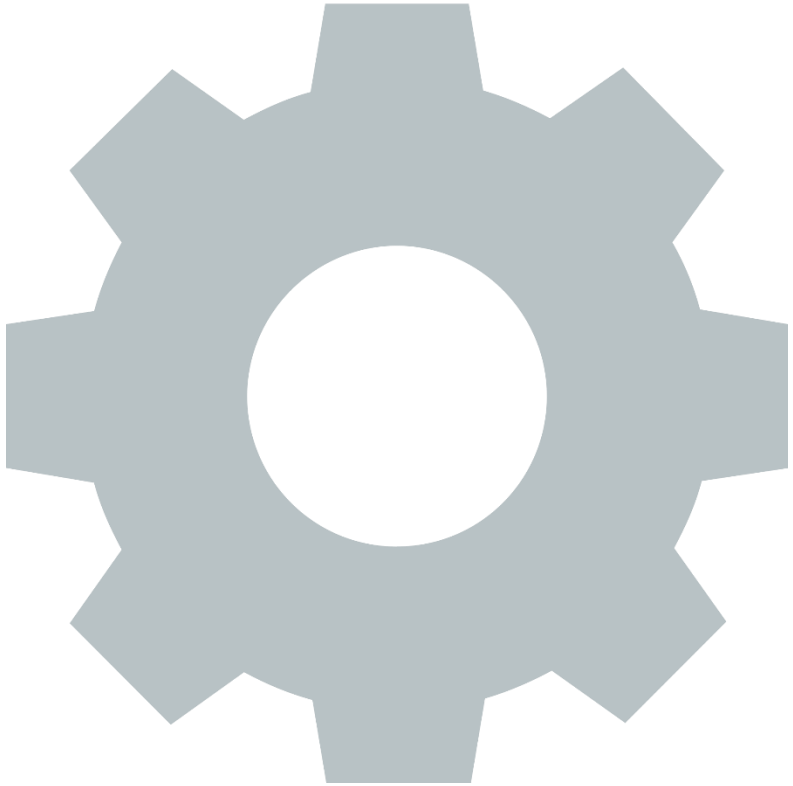
Growing company with worldwide network of technology and integration partners.

Anark Corporation HQ in Boulder, Colorado, with offices in the Washington DC, Detroit, Chicago, San Francisco, and Bangalore.

Anark ECM Platform – Connecting the Digital Thread

- **Enables manufacturers to easily transform, publish and manage critical PLM & ERP data** into powerful, role-and-use-case-specific 3D PDF documents and HTML5 web content that can be consumed on virtually any device
- **Empowers knowledge workers along the Digital-Thread to communicate and collaborate** more effectively and securely throughout engineering, manufacturing, supply-chain and field service operations.
- **Most advanced support for powerful model-based enterprise (MBE) process change**, yielding higher quality products, accelerated release cycles, and reduced scrap and material waste, netting substantial cost savings for OEMs and their suppliers.





Digital Transformation Trends

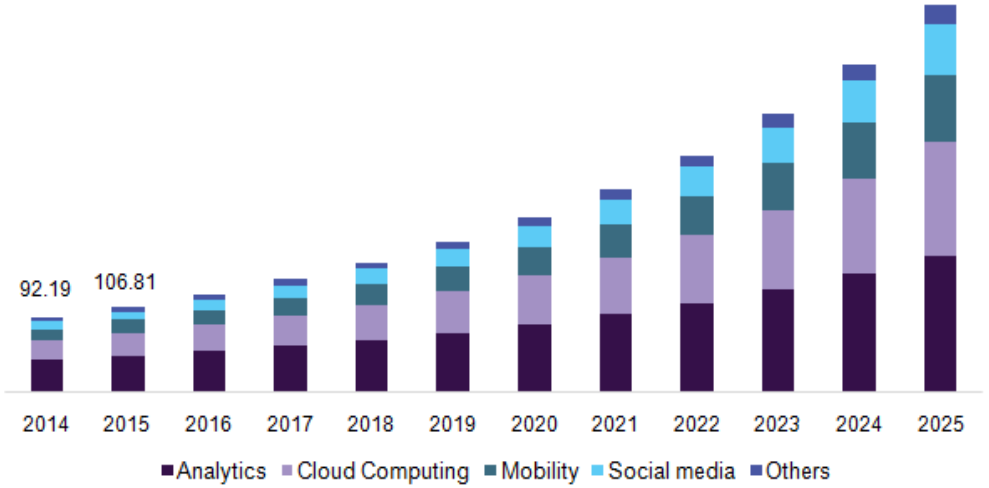
Digital Disruption

Harvard Business Review

*"**Research shows that since 2000, 52 percent of companies in the Fortune 500 have either gone bankrupt, been acquired, or ceased to exist as a result of digital disruption.** The collision of the physical and digital worlds has affected every dimension of society, commerce, enterprises, and individuals…"*

*"**…digital transformation is the result of enterprises seeking to adapt to the storm of new technology affecting markets and customers.** Effective internal systems, processes, and value chains will always be essential, but enterprises will increasingly need to harness the skills, capabilities, and passions of the external market. Digital transformation forces wholesale change to the foundations of an enterprise — from its operating model to its infrastructure, what it sells, and to whom and how.*

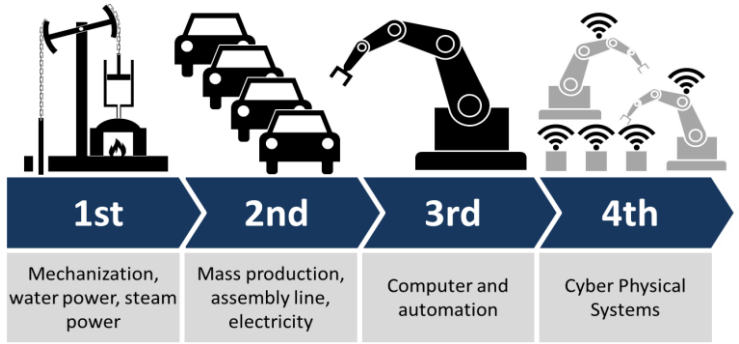
Industry 4.0 & Digital Transformation Trends



- **Global *digital transformation market*** expected to reach ***USD 798.44 billion by 2025 -*** *Grand View Research*
- ***Industry 4.0 Market*** is expected to exceed ***USD 214 billion by 2023*** according to "Industry 4.0 Market & Technologies 2018-2023" - *Markets and Research*

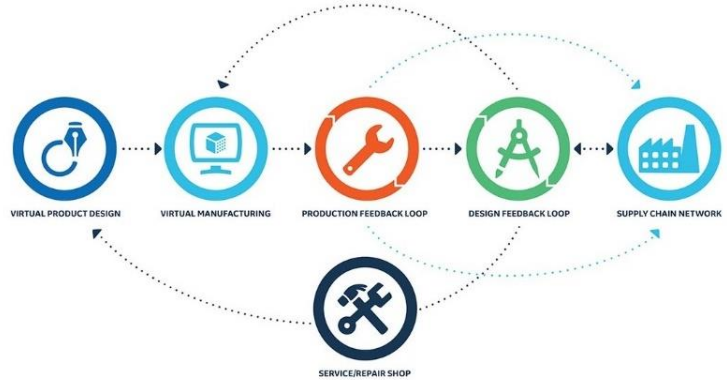
- OEMs under pressure to improve quality, minimize waste, comply with regulations, and more rapidly satisfy customer demand.
- Digital Transformation strategies are built upon smart, connected Digital Thread/Twin, IOT, AI, AR, additive mfg, and Model-Based Enterprise (MBE) processes and solutions.
- Cloud, big data, mobile, and IOT empower smart, connected digital processes for efficient, information-rich data sharing and collaboration throughout the enterprise and supply chain, and into the field.

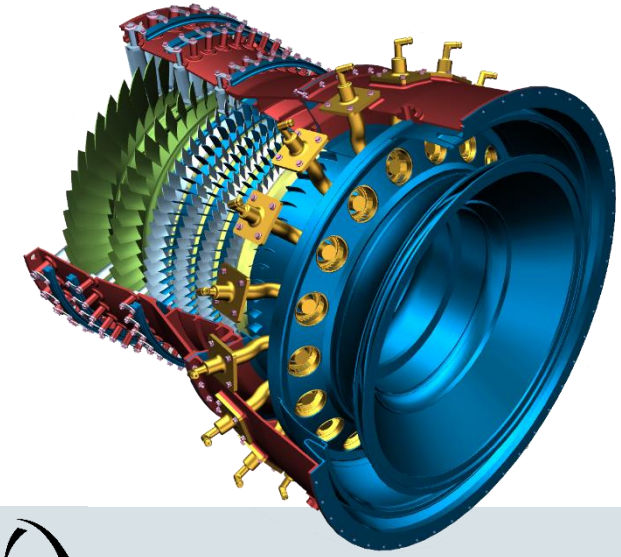
Smart, Connected, Collaborative



Industry 4.0 creates what has been called a **"smart factory"**. Over the Internet of Things, cyber-physical **systems communicate and cooperate with each other and with humans in real-time both internally and across organizational services offered and used by participants of the value chain. -** *Industrie 4.0 Working Group*

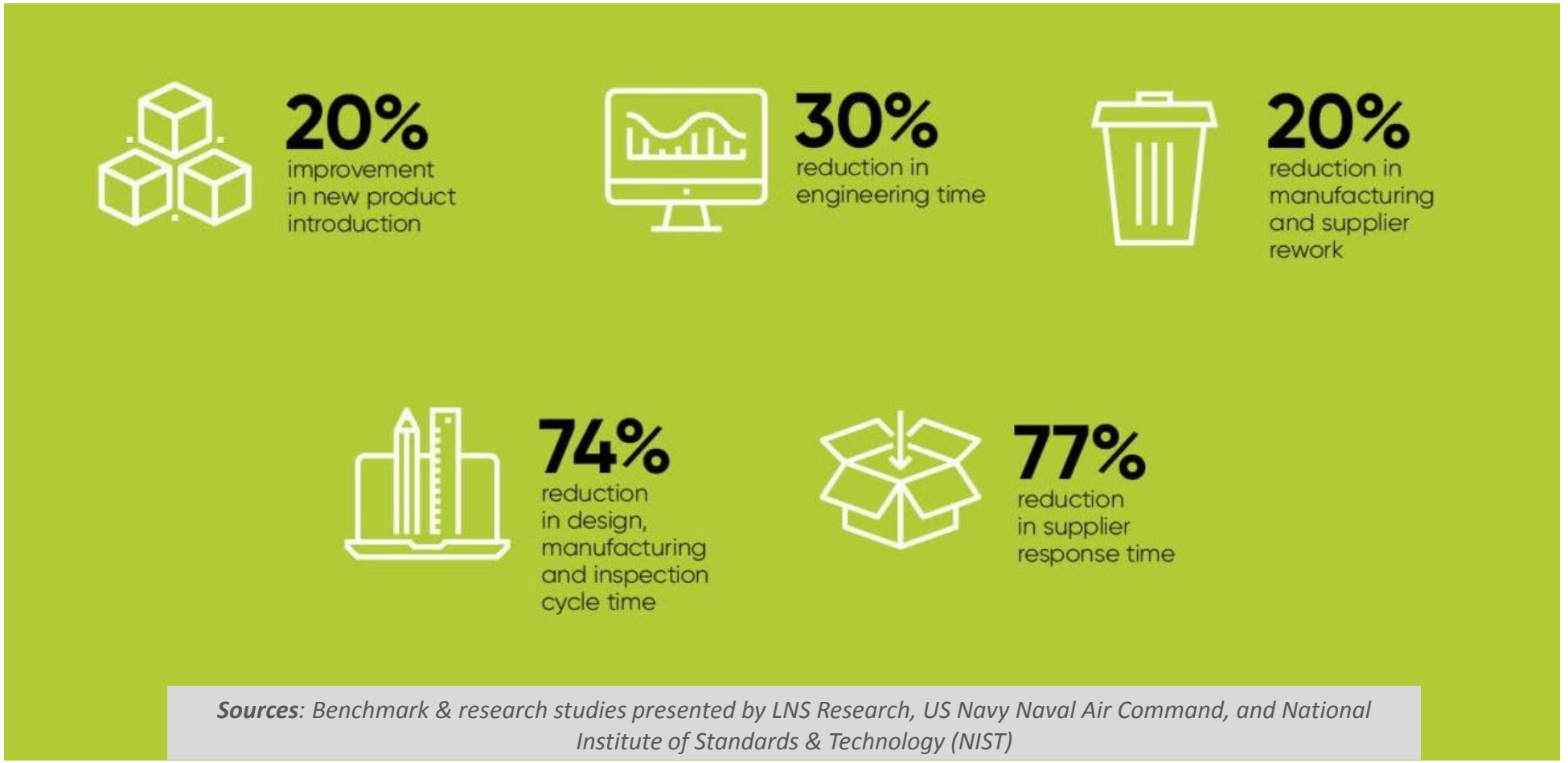
The Digital Thread refers to the **communication framework that allows a connected data flow and integrated view of the asset's data throughout its lifecycle across traditionally siloed functional perspectives**. *- Industry Week*





Model-Based Enterprise (MBE) is a **fully integrated and collaborative environment** founded on **3D product definition** detailed and **shared across the enterprise**; to enable **rapid, seamless, and affordable deployment of products from concept to disposal. -** *DMDII*

Digital Thread and MBE Benefits

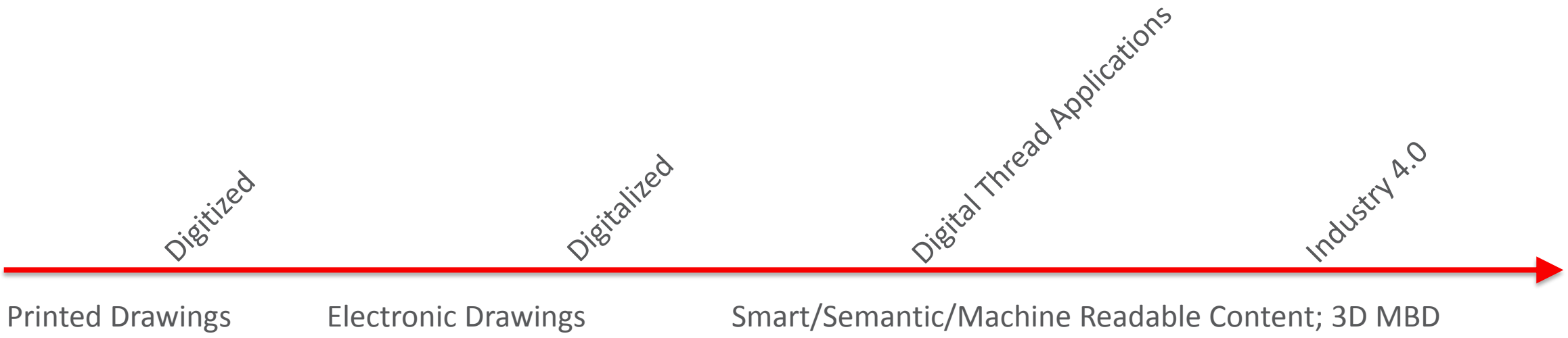


Anark's customers are benefitting from successful deployments of collaborative, information-rich Digital Thread solutions; they are coming to market faster, with higher quality products, with significant cost savings.

Digitization vs. Digitalization

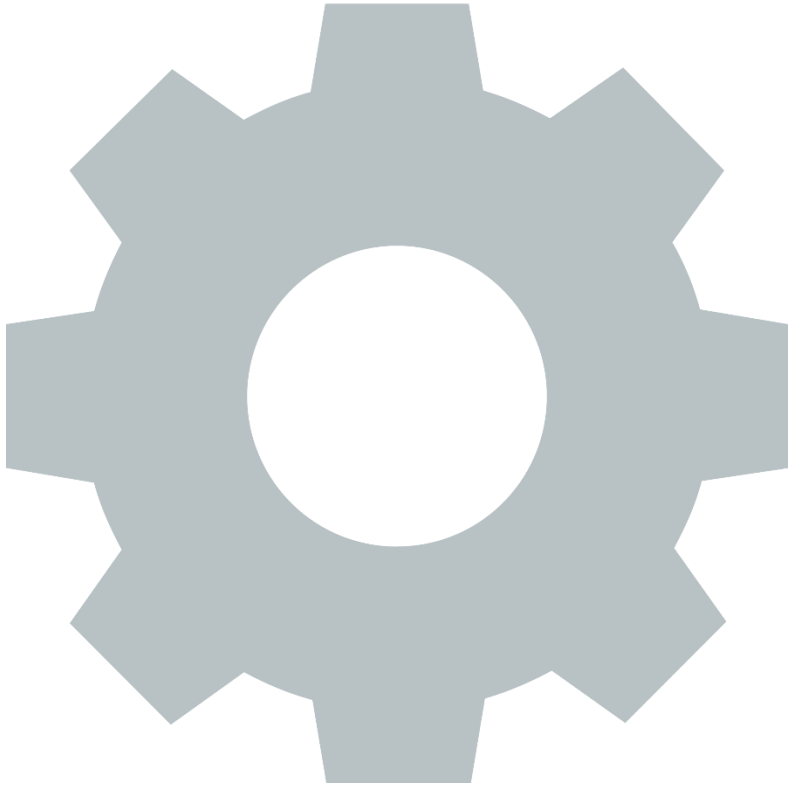
- **Digitization**: “the process of converting information into a digital format”
  - “Content” combined with “presentation” in digital files

- **Digitalization**: “the use of digital technologies [and content] to…provide new revenue and value-producing opportunities; it is the process of moving to a digital business”
  - Reuse of machine readable content by downstream processes and machines



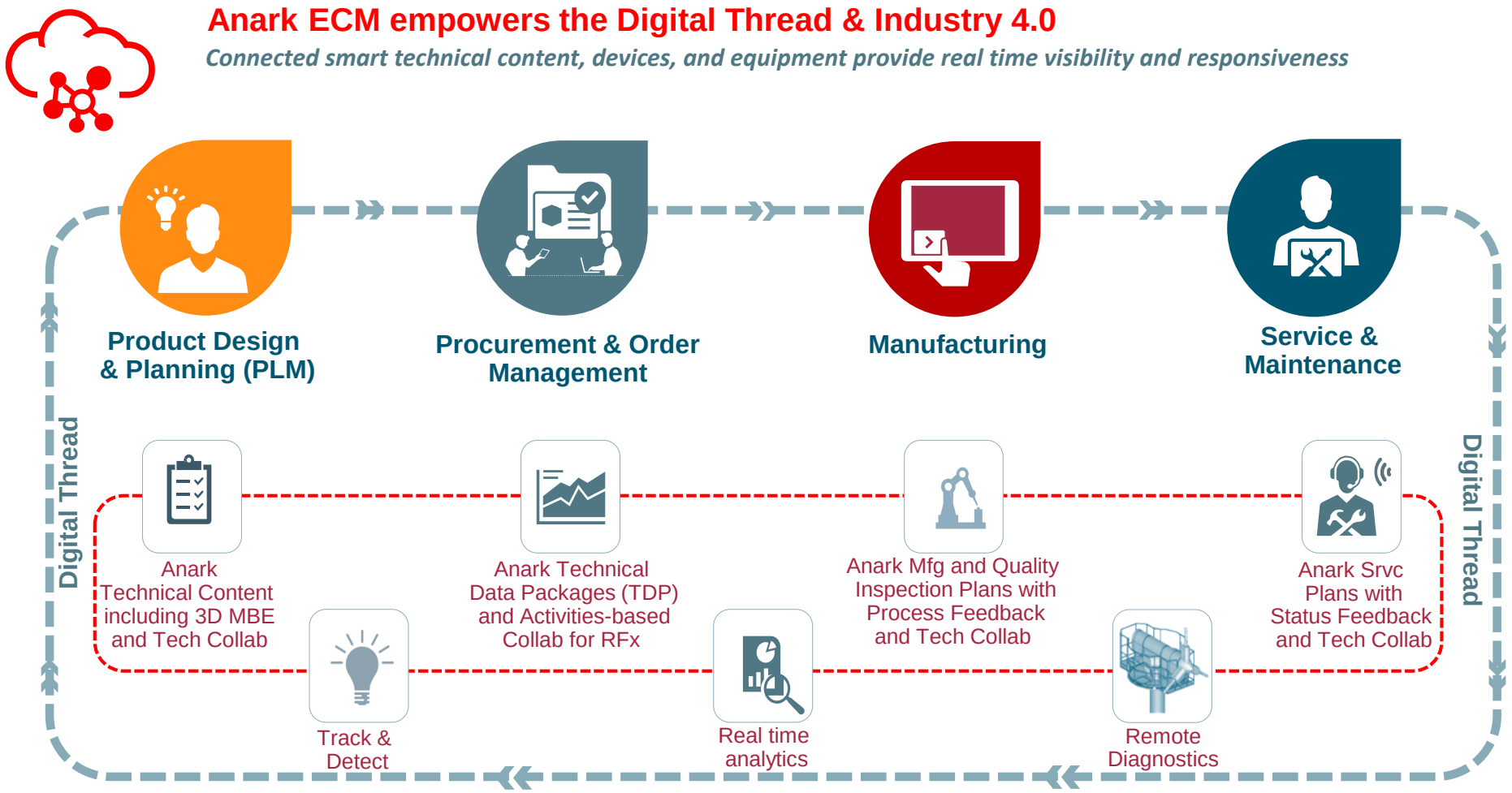
Adoption Challenges

- Customers struggle with PLM/ERP functionality gaps & limited interoperability which stymies adoption.
- Existing solutions for data sharing, collaboration, and visualization are often proprietary, rigid, ad-hoc and not well suited for a modern web-based Digital Thread paradigm.
- Customers are challenged with managing a wide array of disparate technical data types/file formats required to achieve enterprise digitalization.
- Until recently, enterprise OEMs and their suppliers have been slow to implement public cloud strategies.
- Process & culture change are hard.



Deploying Connected Digital Thread

Modern, Connected Digital Enterprise



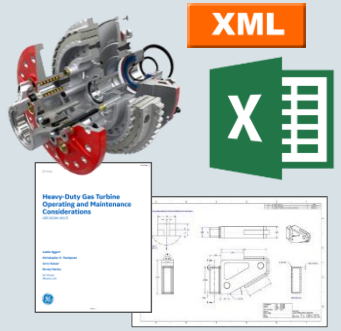
Anark ECM provides deeper technical insight for product improvement and maintenance

Anark ECM for the Digital Thread

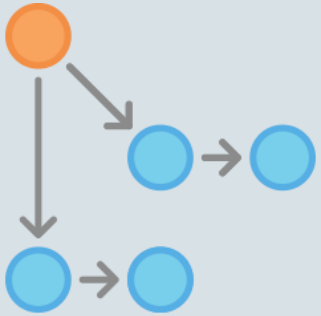
Anark Core

Authoring & Publishing Automation Services

Technical Data & Files



Recipe Actions



PLM, SCM, ERP

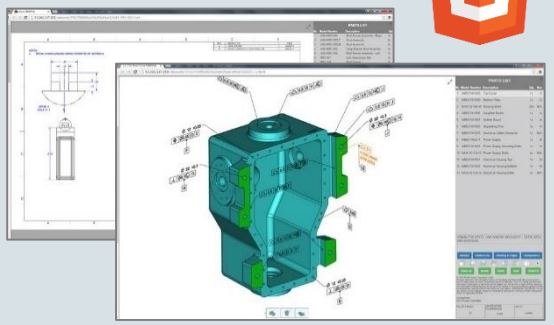
PDF

PDF

Anark MBEWeb

Content Management & Collaboration Services

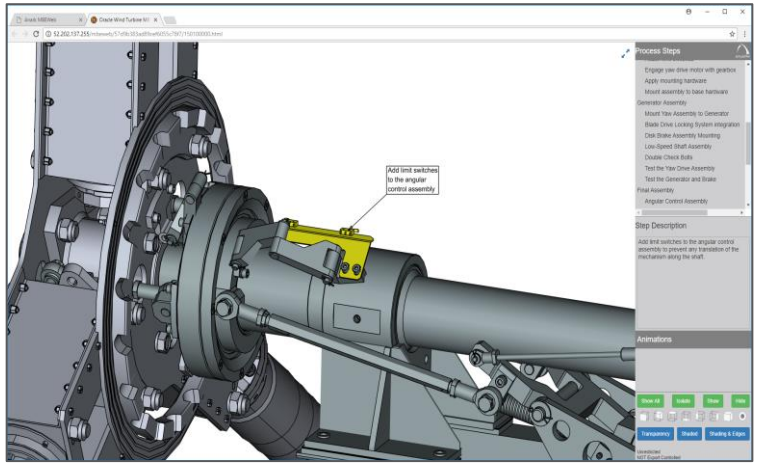
Role-specific Technical Web Content

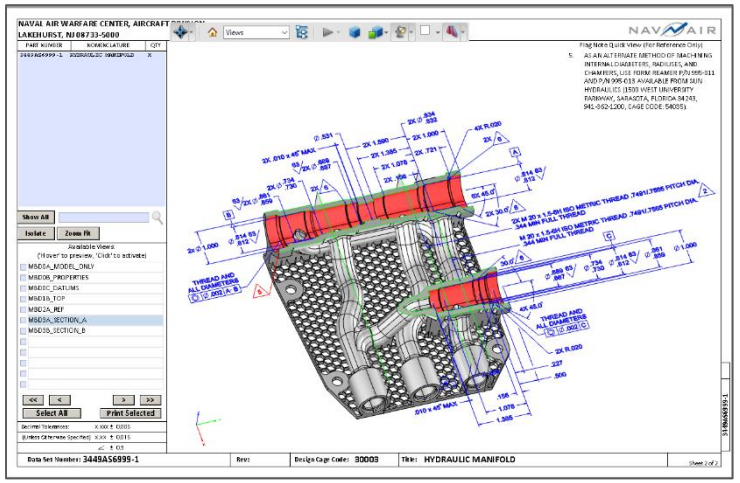


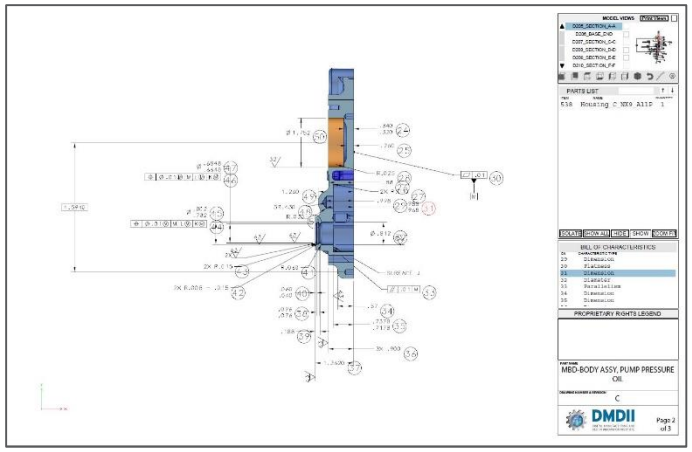
Consume & Collaborate

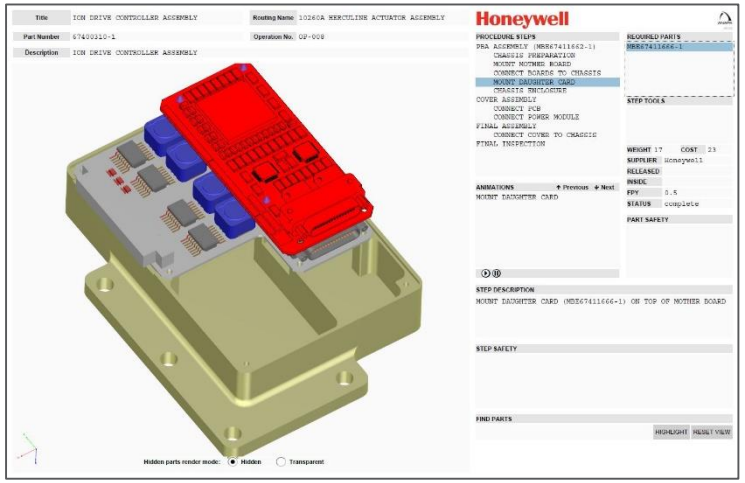
PLM, SCM, ERP, MES, IOT

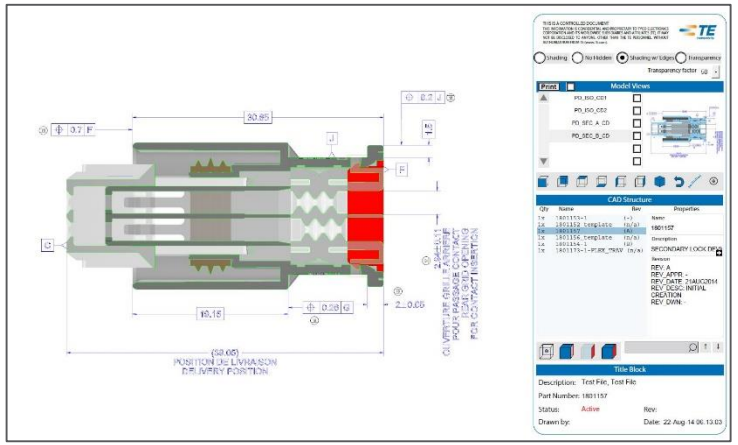
Connected, Collaborative, Traceable, Technical Content

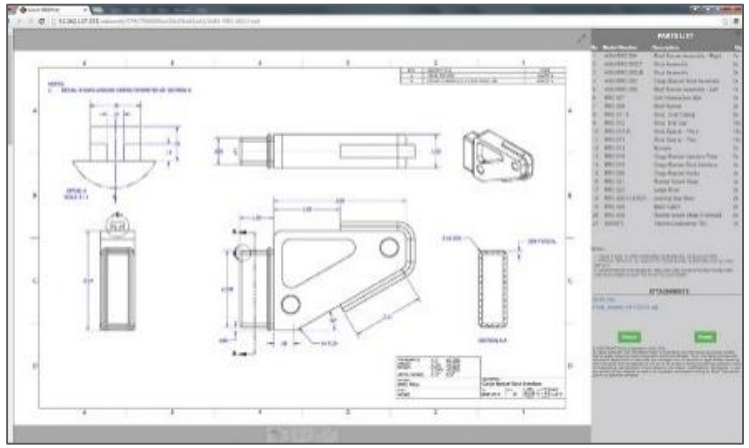






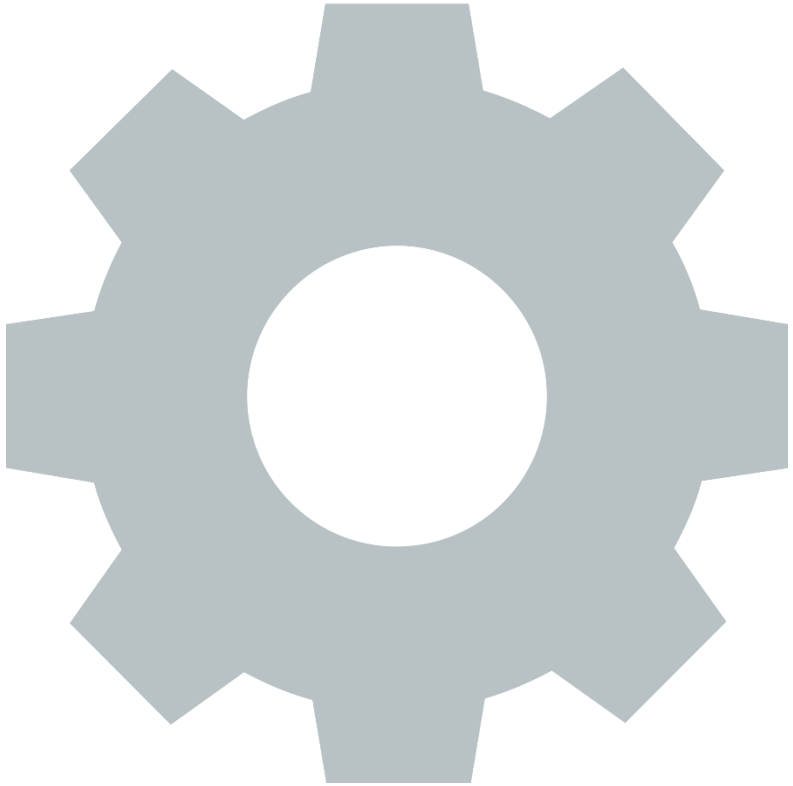






Conclusions

- Effective digital transformation strategy is essential to thrive in today's competitive environment.
- By embracing Industry 4.0, Digital Thread, and Model-Based Enterprise (MBE) processes, innovative OEMs and their suppliers improve efficiency, IP security, and quality, while accelerating new product introduction (NPI) timelines.
- Support for full spectrum of technical data, and commitment to process and culture change are both essential to succeed
- Anark's technical ECM platform is uniquely positioned to capitalize on emerging Digital Transformation trends by providing effective, flexible, automated tools to empower global OEMs and their suppliers to cost-effectively deploy a connected, information-rich, collaborative Digital Thread.



Q&A