



DIGITAL ENGINEERING

In order to build innovative products and new markets, we need to serve our external and internal customers with equally innovative approaches to CAD and PLM tools in the following areas:

1. How CADmins need to change:
 - “Eat our own dog food” by becoming end users – 10% time allocation.
 - Do not let process become a proxy – if you have to add a process, automate it and put it in the background.
2. Training needs to become On Demand and Just Enough. Listen to how your end users want to be trained and embrace that.
3. Computer Aided Design (CAD) needs to transform into Computer Aided Engineering (CAE) by empowering designers with:
 - Analysis tools (Creo Simulate and Creo Simulation Live). Start with Modal Analyses and progress to Linear Static.
 - Manufacturing tools
 - Traditional subtractive processes: Prismatic Milling and Mold Design.
 - Additive Manufacturing – 3D printers.
 - Design for Manufacturing (DfM) & costing.
 - Topology Optimization and Generative Design.
4. CAD needs to transform from support to strategic by
 - Shifting the focus from the creators to the consumers and
 - Implementing true Product Lifecycle Management (PLM) across the enterprise.

Our desire to serve our customers drives our innovation. Our customers are:

- Our external customers – the people who buy and use our products.

- Our internal customers:
 - Our end users – the people who drive Creo Parametric and Windchill.
 - The consumers of our deliverables – including Manufacturing, Procurement, Inventory, Planning, Marketing, and Sales – the entire enterprise.



Essentials to Day 1 defense from Jeff Bezos:

1. Customer Obsession
2. A skeptical view of proxies.
3. Eager adoption of external trends.
4. High-velocity decision making.

Customer Obsession

“Leaders start with the customer and work backwards. They work vigorously to earn and keep customer trust. Although leaders pay attention to competitors, they obsess over customers.”

--Amazon Leadership Principles

From Jeff Bezos’s 2016 Letter to Shareholders:

Resist Proxies

Good process serves you so you can serve customers. But if you’re not watchful, the process can become the thing. This can happen very easily in large organizations. The process becomes the proxy for the result you want. You stop looking at outcomes and just make sure you’re doing the process right.

Embrace External Trends

“The outside world can push you into Day 2 if you won’t or can’t embrace powerful trends quickly. If you fight them, you’re probably fighting the future. Embrace them and you have a tailwind.

These big trends are not that hard to spot (they get talked and written about a lot), but they can be strangely hard for large organizations to embrace.”

High-Velocity Decision Making

Day 2 companies make high-quality decisions, but they make high-quality decisions slowly. To keep the energy and dynamism of Day 1, you have to somehow make high-quality, high-velocity decisions. Easy for start-ups and very challenging for large organizations.