Intelligent Enterprise for Aerospace & Defense

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In 2025

Aerospace will be a data-centric industry
Why?
\( f(x) = \text{Operational} + \text{eXperience} \)
Transform into **data centric** industry

Reduce time to market for **innovations**.

Simulate & **optimized** decision finding.

**Incorporate** constant changes.
To successfully establish an **Intelligent Enterprise** platform consider …

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<th>Intelligently</th>
<th>Connecting</th>
<th>People, Things and Businesses</th>
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<td>▪ Real-time Data</td>
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<td>▪ New Ecosystems</td>
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<td>▪ New Products &amp; Services based on Data, APIs, Microservices</td>
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Strategic Priorities in A&D
Digitization via key investments within IoT, Data Science, Future Factory, and Service

Customer centricity

- Rethink from end consumer perspective
- Optimize across the entire value chain
- Outcome-based
- Collaborative Innovation
- Cost management

Driving Innovation

- Innovate with digital twin in the center
- Product (smarter, more reliable and affordable)
- Cybersecurity
- 3D Printing
- Faster innovation: agile and open dev. platform

Digital Business Networks

- Leverage knowledge of best of breed partners
- Scalable and secure
- Visibility & Prediction

Agile Manufacturing

- Flexible reaction to changes
- Workforce transition
- Collect production data via IoT and M2M
- Smarter factories

New Business Models

- Aftersales service
- Data is the new fuel
- Leverage digital equipment to create value-add services
- Rapid commercialization

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intelligence

definition:
the ability to acquire and apply knowledge and skills.

https://www.youtube.com/watch?v=U_0HJ2Ycpzk
SAP point of view: Intelligent Enterprises will lead the way . . .

“Intelligence is the ability to learn from experience, anticipate problems, and use knowledge to adapt to new situations.” – David G. Myers

Utilize technology and automation to focus on higher value tasks.
3 Steps Journey

**Optimize** existing processes for more efficiency or reliability

**Extend** current business processes beyond efficiency gains to capture new sources of value

**Transform** the company’s value chain or business model
Step by step on your **flight path** . . .

### Optimize
- **Customer centricity**
  - Effective customer program risk and cost management

### Extend
- **Driving innovation**
  - Efficient management of embedded software
  - 3D printing and augmented reality to expedite prototyping

### Transform
- **Digital business networks**
  - Future infrastructure design driven by consumer and product feedback

- **Agile manufacturing**
  - Collaborative enterprise planning to integrate value chain across program ecosystem

- **New business models**
  - Intelligent multitier supply network resource and capability optimization

### Additional Features
- **Addressing global challenges**
  - Streamlined and personalized experience
  - Designed for sustainability and operating cost
  - Pay-for-performance contracts

- **Efficient management of embedded software**
- **Future infrastructure design driven by consumer and product feedback**

- **Supply chain transparency, traceability, and enterprise connectivity**
- **Collaborative enterprise planning to integrate value chain across program ecosystem**

- **Simultaneous manufacturing engineering process**
- **Increased machine-to-machine connectivity and collaboration**

- **Remote monitoring of asset condition to increase profitability of outcome-based contracts**
- **Collection, enrichment, and monetization of data as a service**

- **Shift from selling products to on-demand mobility offerings**

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Optimize

New Business Models – Profitable, Performance-Based Contracting

Traditional scenario

- Maintenance contracts with service-level agreements
- Time-based inspection planning → Inspection → Maintenance → Invoicing
- Unplanned maintenance

A new world with SAP

- Performance-based contracts
- Maintenance strategies based on anomaly detection, predictive forecasting, and optimization of maintenance strategies
- Connecting multiple data sources for one unified view of financial and asset performance with what-if simulations and root-cause analysis

Top value drivers*

- 3%–10% improvement of service profit margin
- Increase of return on assets and optimized asset performance
- Increase of asset performance and reduce maintenance cycle times

* SAP Benchmarking
“Our partnership with SAP has resulted in a powerful, transformative tool that sharpens our competitive edge, accelerates our innovative and collaborative efforts, and enables us to reach a higher level of performance.”

- Chris Kubasik, CEO & President, L3 Technologies
Intelligent Supply Chain Management
Optimized Business Decisions

1. Identify plantations

2. Get historical spatial data & correlate with business data

3. Find key drivers and build yield prediction model

4. Run model 24/7 and improve business decisions
Create YOUR flight path to Intelligent Enterprise

Understand where you are and your goal

Plan well to manage expectations

Build and launch with proven best practices

Run all deployment models

Improve for continuous innovation

\[ f(x) = \text{Resources} + \text{Culture} + \text{Risk} + \text{Innovation} \]
SAP’s framework for the **Intelligent Enterprise**

- Network & Spend Management
- People Engagement
- Digital Core
- Manufacturing & Supply Chain
- Customer Experience

**Intelligent Suite**

**Intelligent Technologies**
- AI
- Machine Learning
- Analytics
- IoT

**Cloud Platform**

**Data Management**
Key Takeaways

Start journey – Learning starts by doing.

Establish enterprise platform on common vocabular & grammar – enable everyone to try

Employees and partners are key to the success – collaborate on innovations
Thank you.

Torsten Welte
Global Vice President Aerospace & Defense, SAP SE