Turning AI into an Operational Reality

Lessons & Challenges from Defence

PLM Road Map™ EMEA & PDT Europe 2023
The Digital Thread in a Heterogeneous, Extended Enterprise Reality
A call for PLM Professionals to share their knowledge & experience

CIMdata   15 & 16 November   eurostep

Digital Intelligence

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What is AI?

- AI is a product or service that is adaptable and autonomous

- Replicates human decision making, but doesn't think itself

- Narrow vs General AI

- Solutions include algorithms, models and integrated applications

- Requires human oversight

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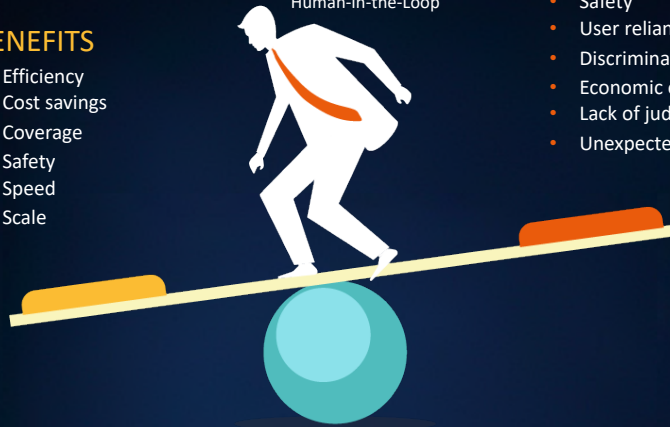## AI – A Risk Balanced View

BENEFITS
- Efficiency
- Cost savings
- Coverage
- Safety
- Speed
- Scale

Human-in-the-Loop

RISKS
- Safety
- User reliance
- Discrimination
- Economic effects
- Lack of judgement
- Unexpected failure

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BAE Systems AI Products and Services

PROPHESEA Asset Management

ILAS Risk Analysis

Ethics Advisory

Cyber Threat Intelligence

Autonomous Cyber Monitoring

AI Assurance

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The Defence Opportunity

- Autonomy
- Computer Vision
- Information triage
- Logistics
- Augmented decision making

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Challenges in Defence

- Risk levels
- Security
- Heterogeneous organisation
- Operational constraints
- Data challenges

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The Product Lifecycle Management Opportunity

AI could deliver so much benefit across PLM

- AI-powered Design
- Digital Twins
- Supply Chain & Inventory Management
- Preventative Maintenance
- Defect and Problem Management

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Maturing AI into Production

Value

Tech

CONCEPT
EXPERIMENT
POC/POV
OPERATIONALISE
DEPLOY & INTEGRATE
RUN & ITERATE

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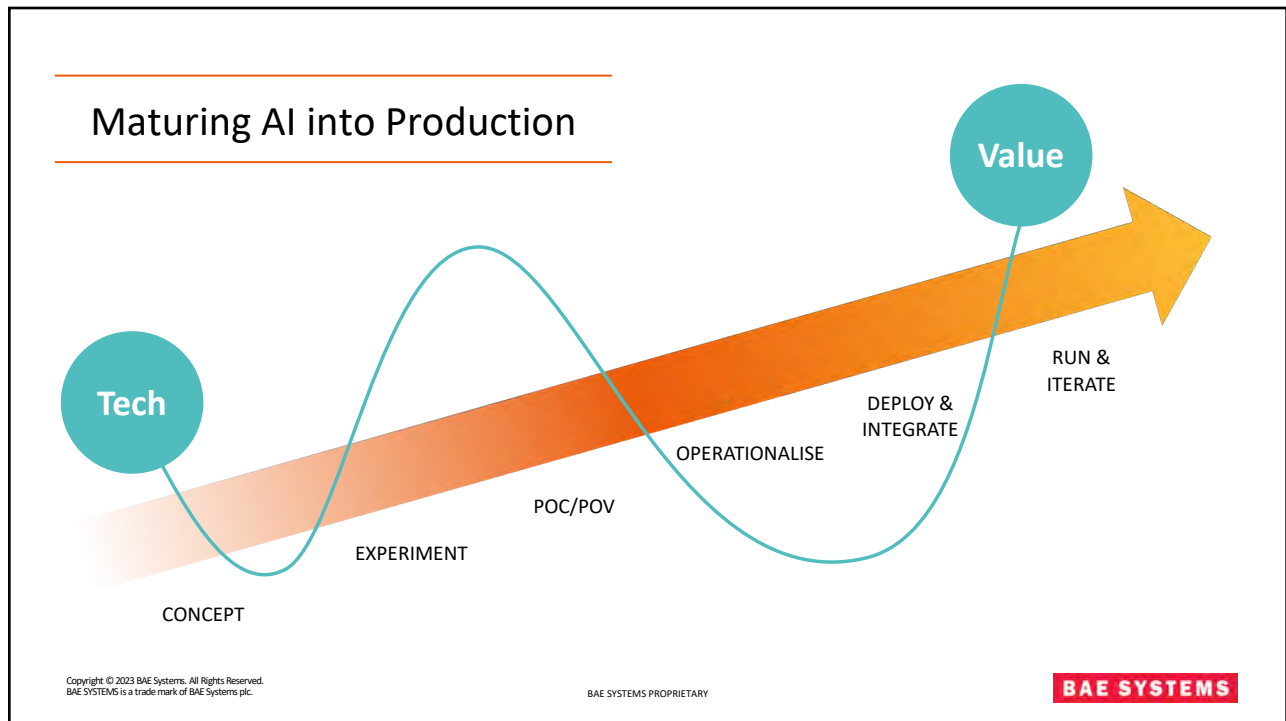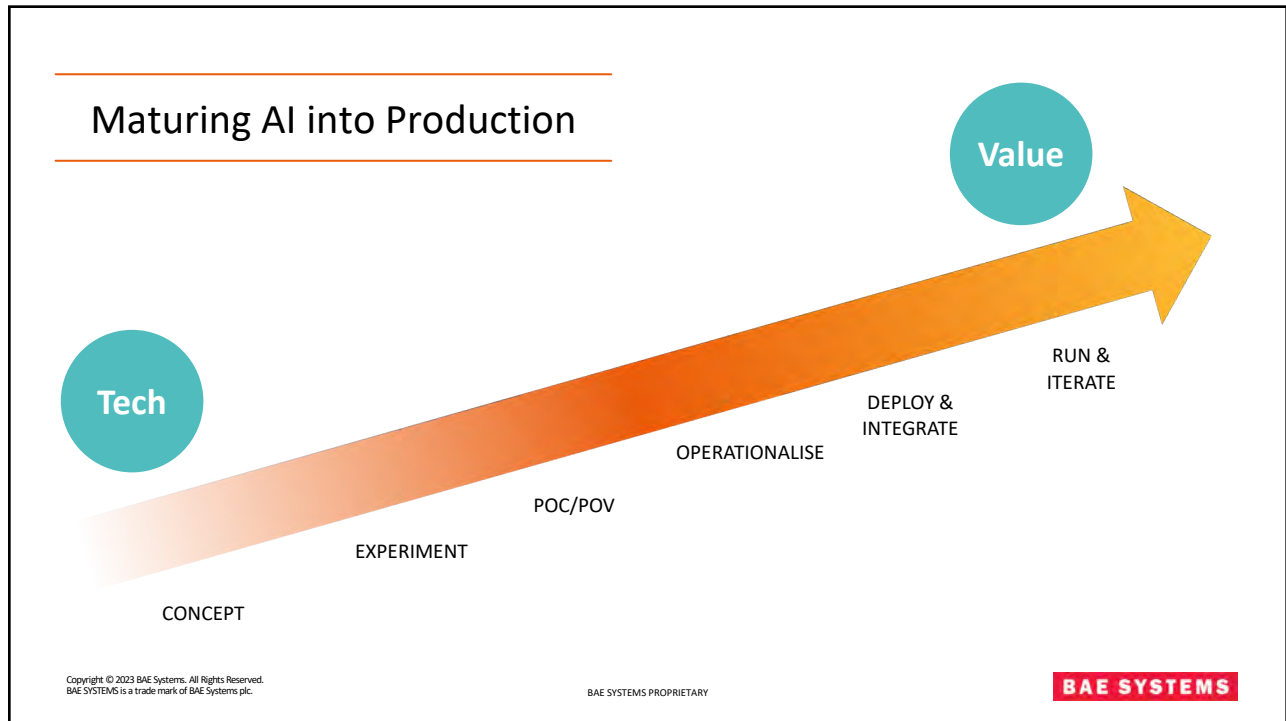
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Why is Operationalising AI Hard?

Technical Challenges

Organisation and Users

Governance and Policy

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Technical Challenges

Technical Challenges

- Data, data, data
- Security
- Assurance
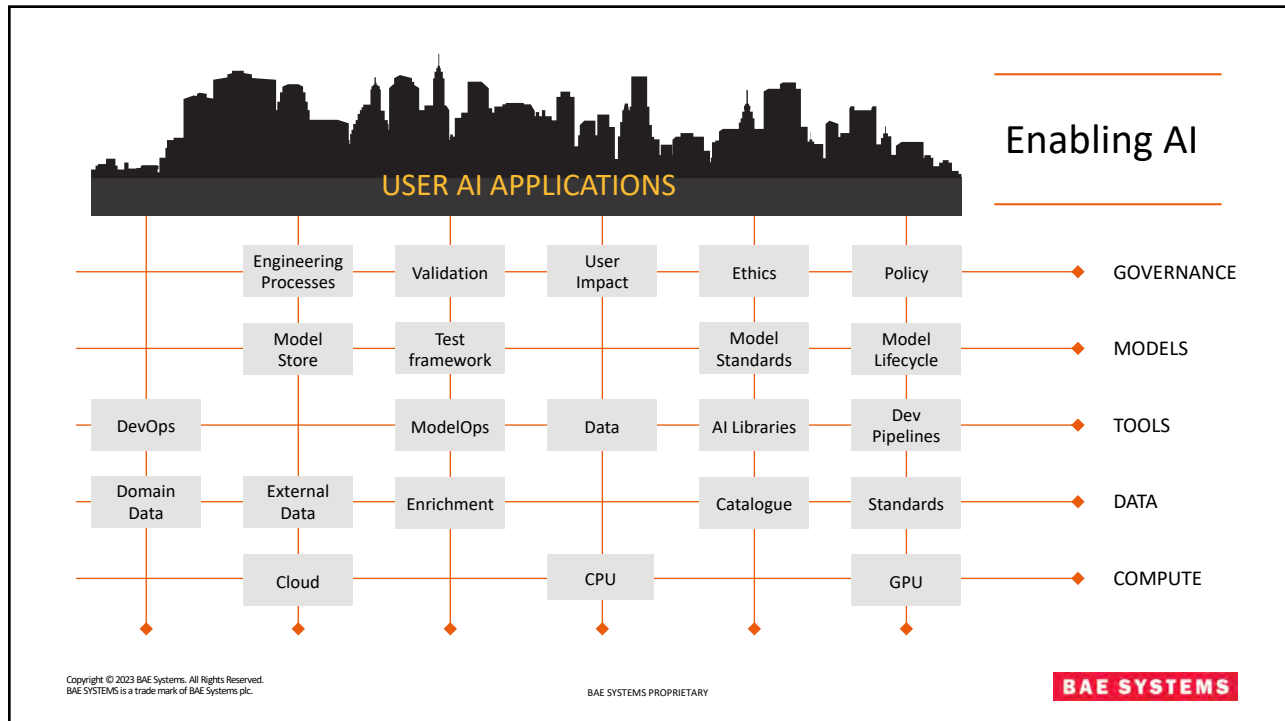- Integration
- Operational constraints

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USER AI APPLICATIONS

Enabling AI

Engineering Processes	Validation	User Impact	Ethics	Policy	GOVERNANCE
Model Store	Test framework		Model Standards	Model Lifecycle	MODELS
DevOps	ModelOps	Data	AI Libraries	Dev Pipelines	TOOLS
Domain Data	External Data	Enrichment	Catalogue	Standards	DATA
Cloud	CPU			GPU	COMPUTE

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Organisation and Users

Organisation and Users

- Avoiding the valley of death
- Sponsorship
- User trust
- Skills
- Business change

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Governance and Policy

Governance and Policy

- Risk
- Ethics
- Approval
- Responsibility
- IP

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Supporting the Responsible Exploitation of AI

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RUN & ITERATE

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OPERATIONALISE

POC/POV

EXPERIMENT

CONCEPT

Use Cases	Data	Enriched Data	Ethics	Validate	Security	Scaling	Model Ops	Business Change	Deploy	User Trust	Approval

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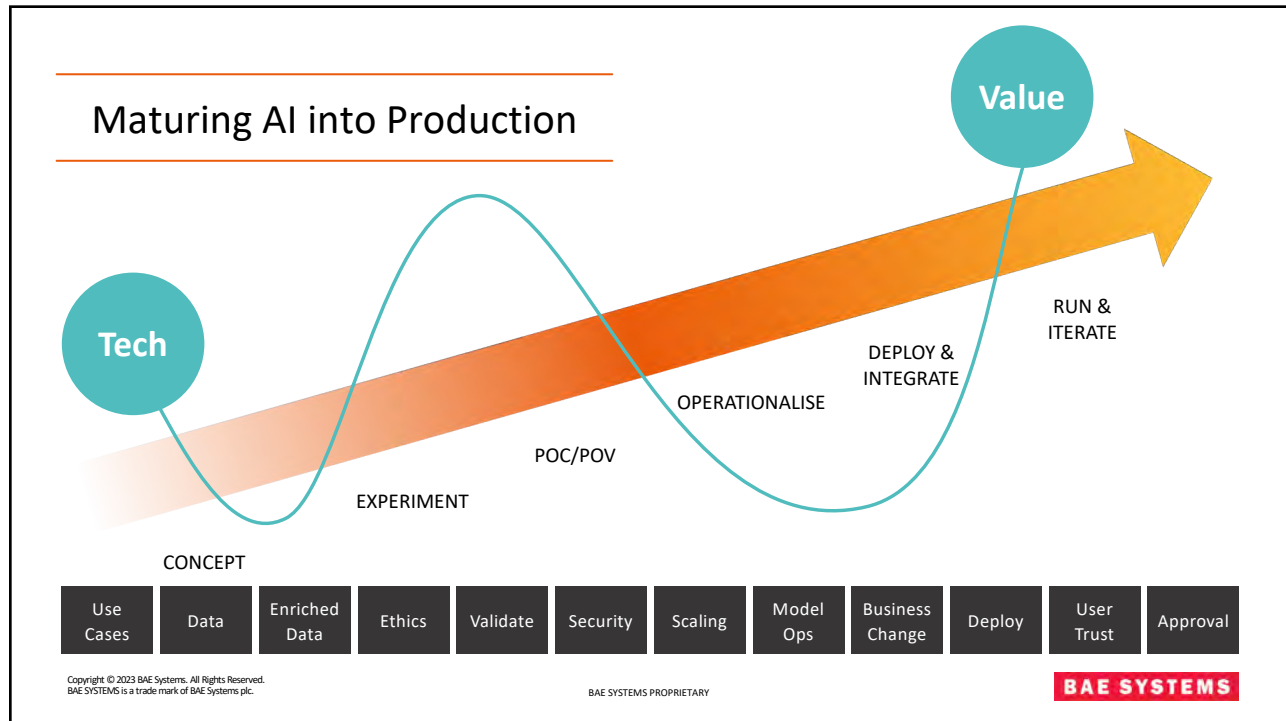
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Getting Started with AI…

- Identify a key use case and sponsor
- Data is critically important
- Establish dev platforms and tooling
- LLMs for accessing knowledge
- ML models for predictive use cases
- Don't forget governance

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Thank You

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