AI in PLM

Balancing Innovation with stable Enterprise Architecture

Peter Vind
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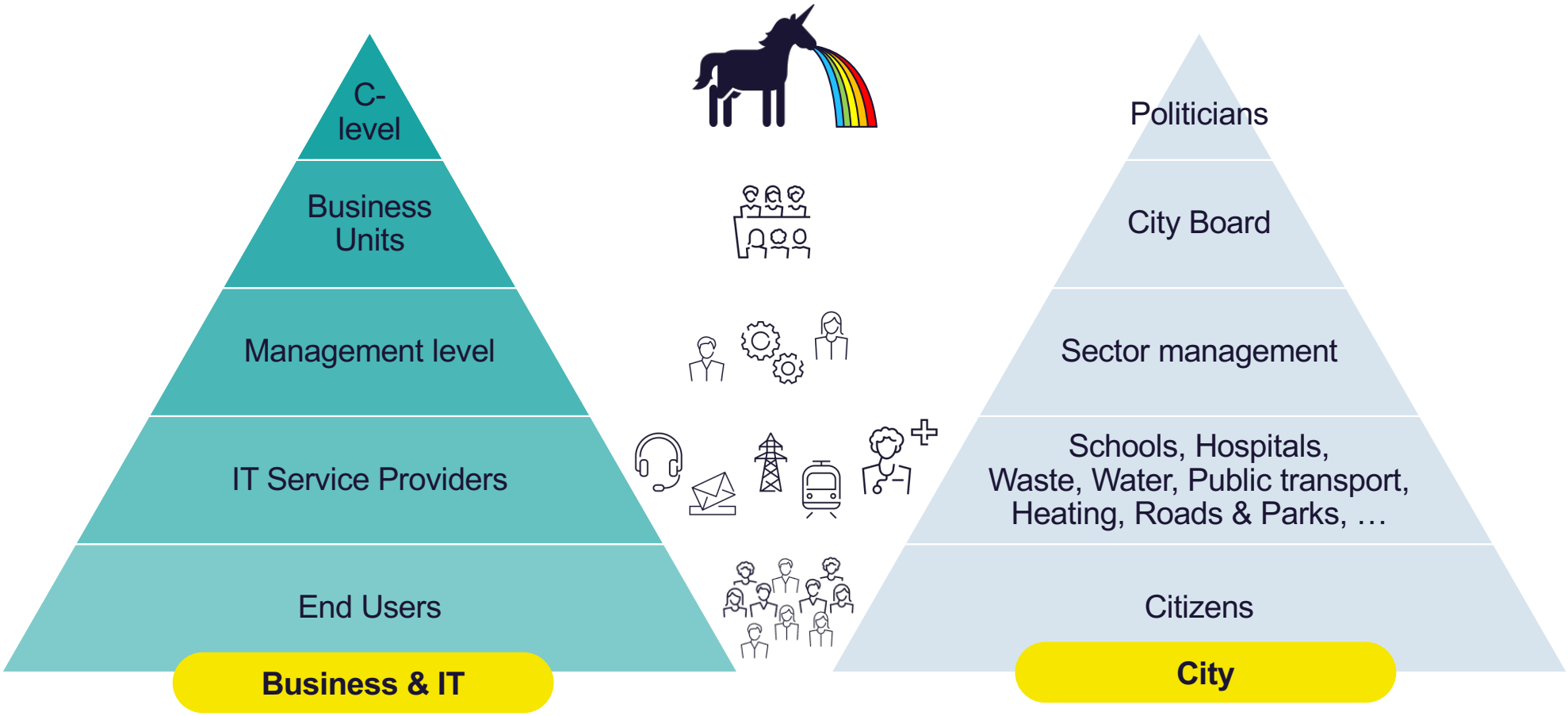
PLM Road Map™ & PDT EMEA 2026
AI in PLM: A Disruptive Opportunity and Challenge
Turning AI disruption into enterprise value:
Strategic insights for the PLM professional
4-5 November 2026
www.CIMdata.com

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What is Enterprise Architecture?

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What is Enterprise Architecture?



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Why a Unicorn?



They are rare
They have magic powers
What comes out of the mouth is amazing

But…
Do they really live in the real world?

The rainbow is beautiful, but doesn't really contribute with anything

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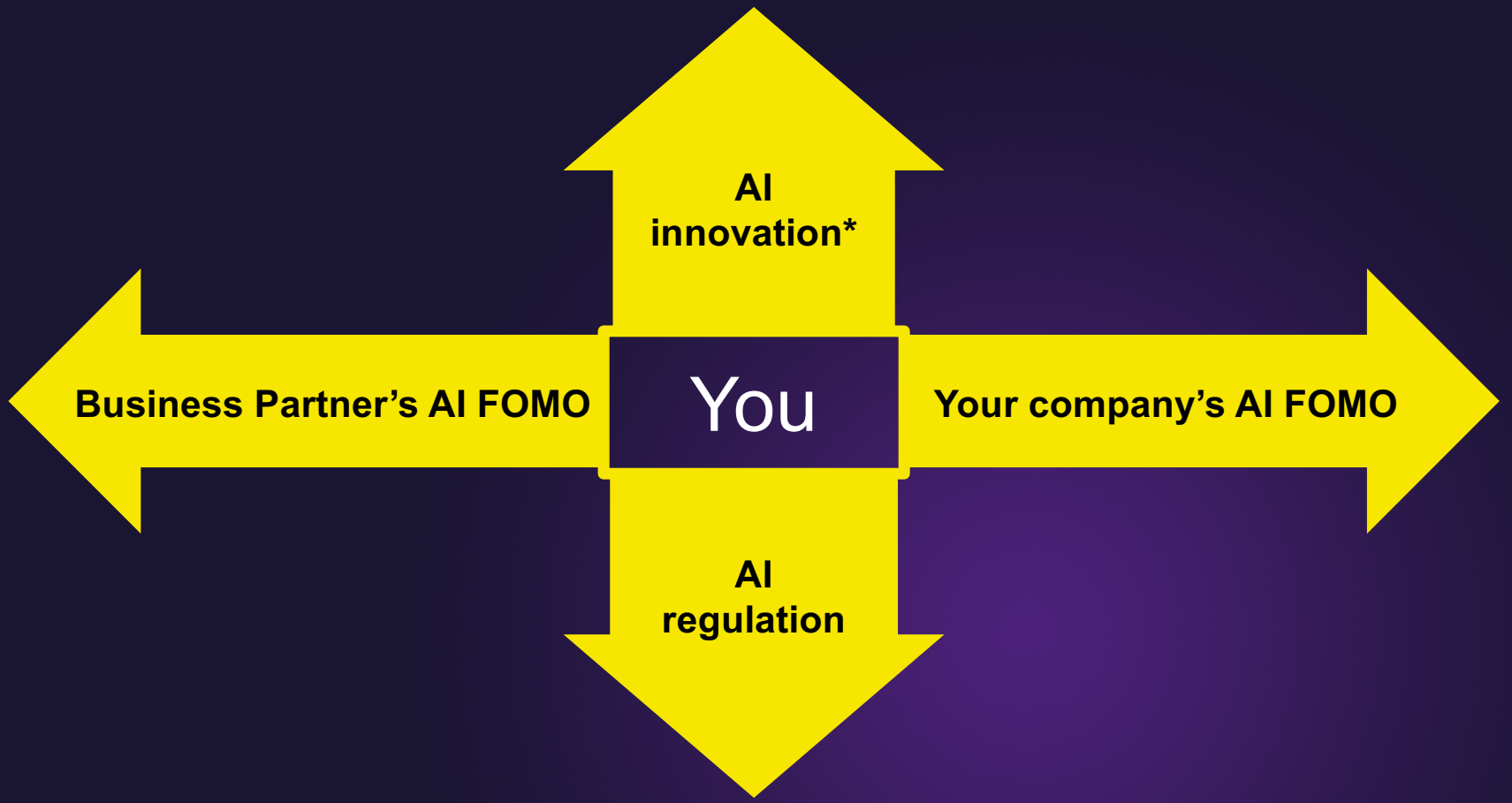
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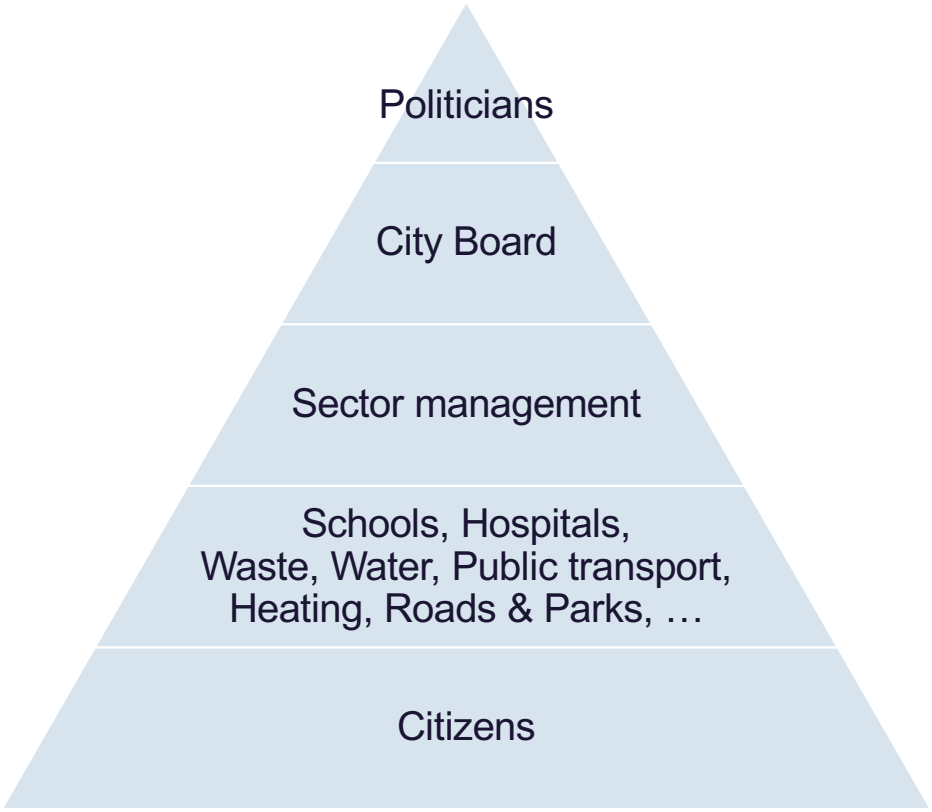
AI Forces pulling you out of current state

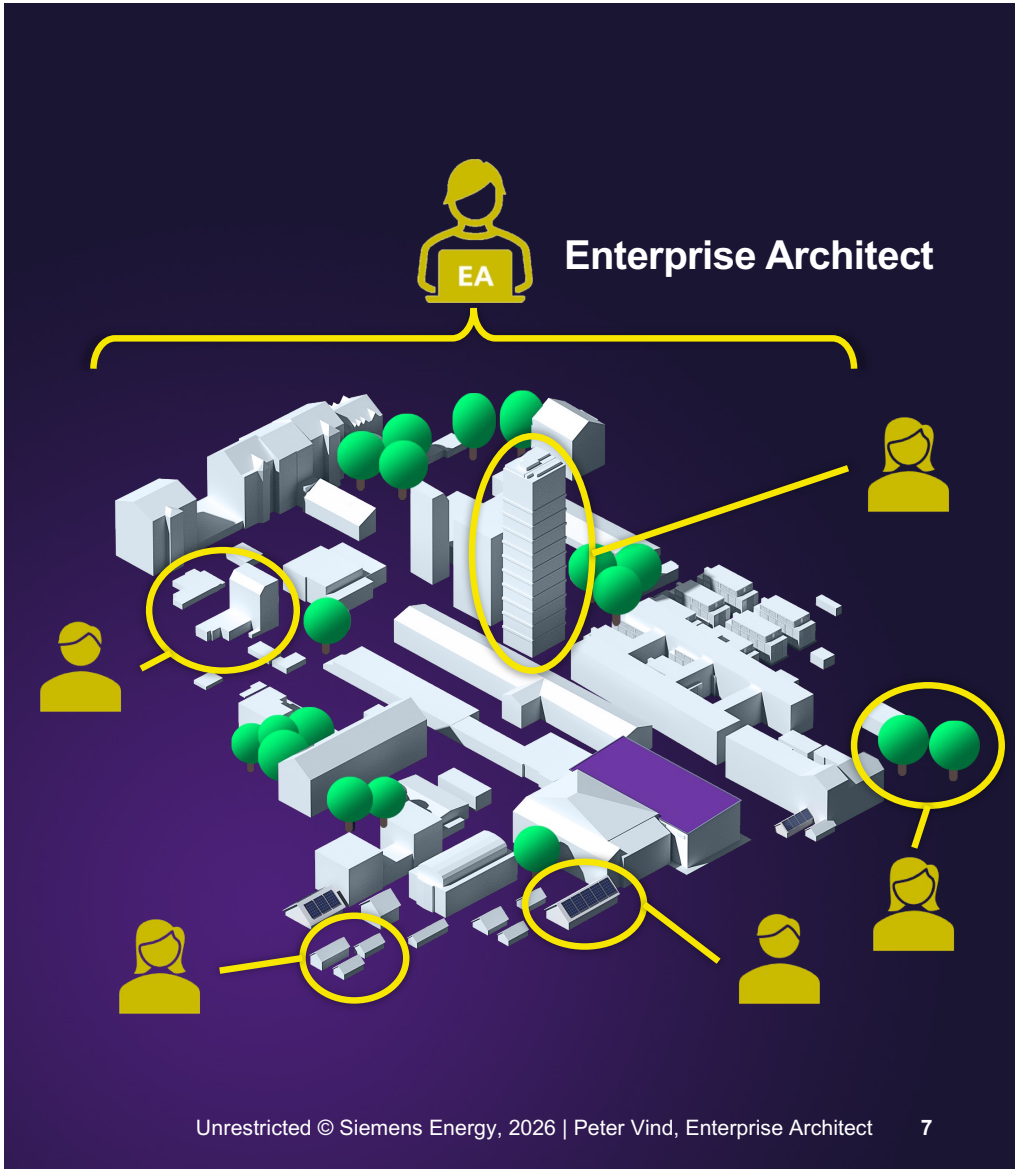


** AKA Shadow AI development*

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What is Enterprise Architecture?



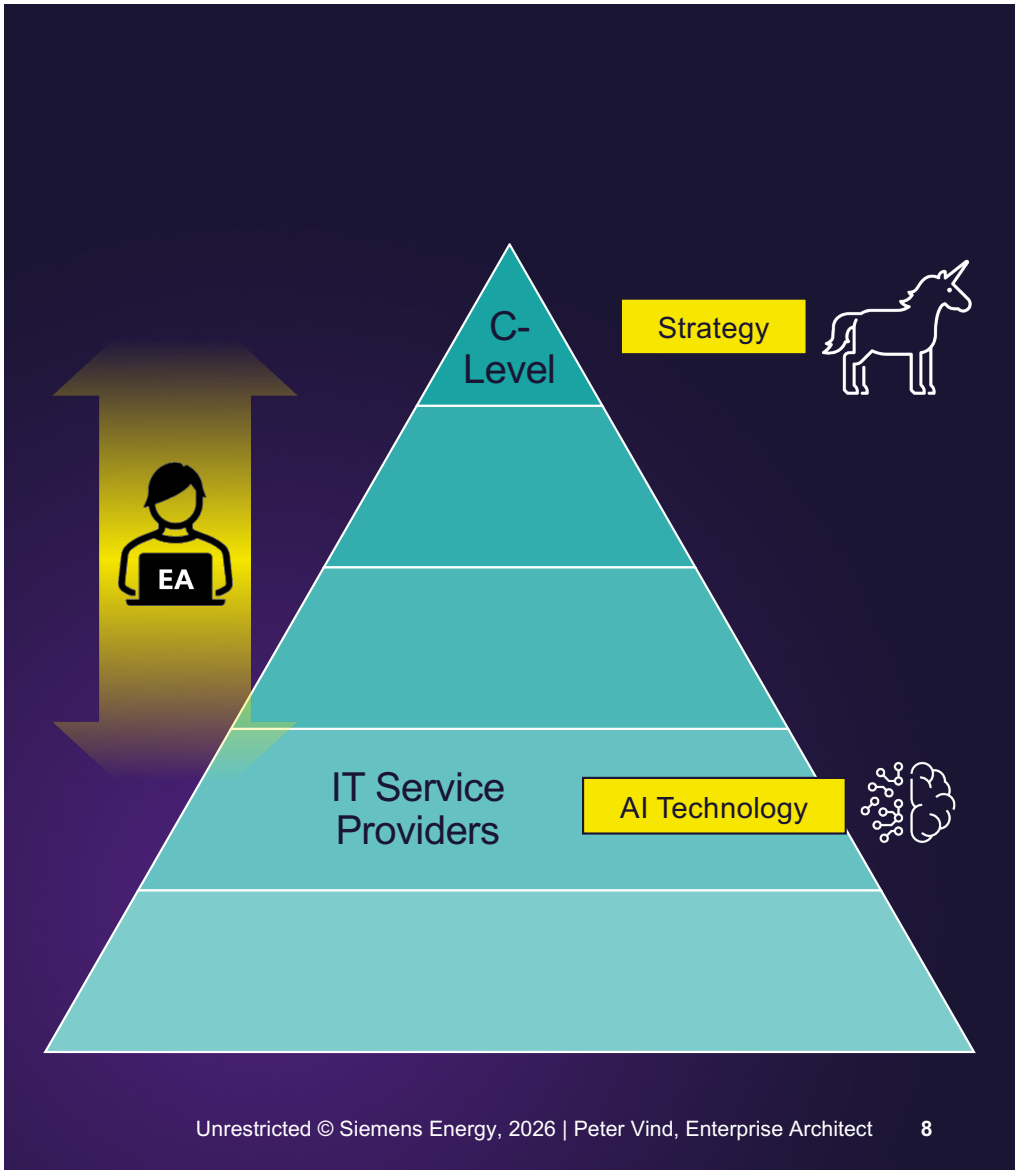


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What is Enterprise Architecture?

Bridge the gab between Business Strategy and IT Services and Technology.

Needs something that is stable over time.



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History of the company in Finspong

1913

- STAL is created in Finspong, Sweden.
- 1916 – ASEA STAL

1962 – 2003

- Several mergers and acquisitions, in example:
  - STAL LAVAL
  - ABB STAL
  - ALSTOM

2003 – 2020

- Siemens AG acquires the energy business from ALSTOM.

2021 →

- Siemens Energy is created.

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History of the company in Finspong

1913	1962 – 2003	2003 – 2020	2021 - 2026	2027 →
Business Capabilities				
• Product development	• Product development	• Product development	• Product development	
• Manufacturing	• Manufacturing	• Manufacturing	• Manufacturing	
• Sales	• Sales	• Sales	• Sales	
• Logistics	• Logistics	• Logistics	• Logistics	
• Finance	• Finance	• Finance	• Finance	
• HR	• HR	• HR	• HR	
	• **Project Management**	• Project Management	• Project Management	
	• **IT**	• IT	• IT	
Technology				
		• **Internet**	• Internet	
		• **Mobility**	• Mobility	
		• **Cloud**	• Cloud	
			• **Data & Analytics**	
			• **AI**	

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Business Capabilities

A Business Capability is

- **What** the business must be able to do

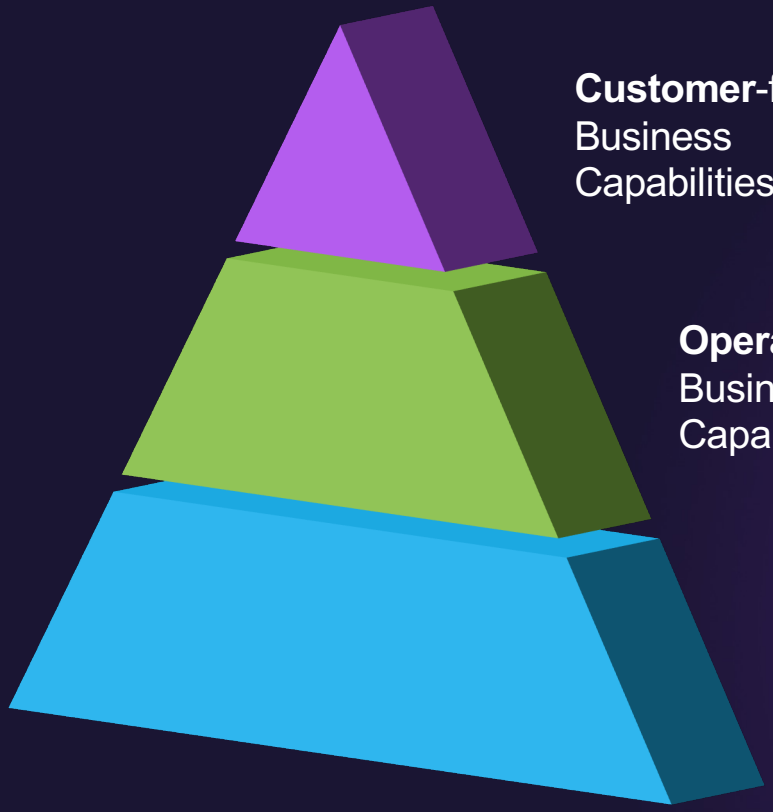
We need to..
- *design our product*
- *understand our customer's requirements*
- *have high-quality data about our product*
- *purchase parts from sub-suppliers*
- *assemble the product and ship it*
- *Offer digital services to the customers*

It does not describe

- **How** work is performed (Processes)
- **Who** performs the work (Organization)
- **Tools** and **Systems** needed (Applications)

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Business Capability Model – Level 0



Customer-facing Business Capabilities

Required for interacting with external customers.

Operational Business Capabilities

Not customer-facing but directly related to and essential for executing operational business processes and delivering products, solutions, and services to customers.

Supporting Business Capabilities

Any capability not directly related to customers or products, services, solutions (most commonly, corporate or global functions).

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Business Capability Model – Level 1

Customer-facing Business Capabilities
Operational Business Capabilities
Supporting Business Capabilities

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Each capability has a board for IT Decisions

Manage Customer & Sales	Plan & Execute Projects	Manage Service	Provide Digital Service
Manage Product Lifecycle	Manage Logistics	Procure	Manufacture
Manage Finance	Manage Human Resources	Prevent & Control	Manage Digital Technology	Administrate Business

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Business Capability Model – Level 2

Customer-facing Business Capabilities
Operational Business Capabilities
Supporting Business Capabilities

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Manage Customer & Sales

- Manage Sales Channels
- Perform Marketing
- Manage Customer Relationship
- Manage Leads & Opportunities
- Configure, Price & Quote
- Manage Customer Cases & Claims
- Manage Customer Requirements
- Manage Approvals & Contracts
- Handle Customer Orders
- Provide Market & Competitor Intelligence

Plan & Execute Projects

- Manage Project Portfolio
- Plan Sales & Operations
- Manage Project Resources
- Manage Project Schedule, Milestones & Orders
- Manage & Control Project Financials
- Manage Customer Deliverables
- Monitor Progress & Control Operations
- Manage Project Risks & Opportunities
- Perform Installation & Commissioning
- Manage Project Claims & Warranty

Manage Service

- Plan Service
- Manage Service Work Orders & Notifications
- Execute Field Service
- Manage Workshop Repair
- Manage Installed Fleet & Assets
- Schedule & Dispatch Resources
- Plan & Forecast Service Parts
- Service Tools
- Operate Service Training Centers
- Operate & Maintain Customer Plants

Provide Digital Service

- Monitor & Control Remotely
- Perform Analysis & Diagnostics
- Predict Conditions
- Collect & Store Customer-owned OT Data
- Provide Digital Customer Solutions

Manage Product Lifecycle

- Develop & Engineer Product & Parts
- Develop & Design Solutions
- Develop & Design Services
- Develop & Design OT Software
- Research & Develop New Technologies
- Manage Process & Product Requirements
- Manage Product Data
- Manage Product Portfolio
- Define Product Quality Controls & Standards

Manage Logistics

- Manage Logistics Service Providers
- Manage Transportation
- Manage Warehouse
- Manage Transport Tooling & Equipment
- Manage On-site Logistics
- Manage Return Logistics

Procure

- Manage Commodity
- Manage Supplier Contracts
- Identify & Onboard Supplier
- Award Supplier
- Manage Requisition
- Execute Purchase
- Manage Supplier Lifecycle

Manufacture

- Prepare Work
- Plan & Control Production
- Manufacture & Assemble
- Perform Plant Maintenance
- Perform Manufacturing Quality
- Perform Product Costing & Production Controlling
- Manage Shop Floor Materials

Manage Finance

- Manage Treasury & Corporate Finance
- Manage Taxes
- Perform Financial Accounting
- Budget & Forecast Financials
- Consolidate Corporate Financials
- Manage Productivity & Cost-out
- Manage Customs

Manage Human Resources

- Manage Benefits & Compensation
- Manage Global Mobility & Work Assignments
- Ensure Inclusion & Diversity
- Provide Learning & Development
- Reinforce Performance Management
- Manage Employee Engagement
- Enhance Strategic Workforce Planning
- Drive Succession & Talent Development
- Manage Talent Acquisition
- Drive Organizational Design & Transformation
- Manage Travel & Expense
- Manage HR Operations incl. Work Time & Payroll

Prevent & Control

- Assure Quality & Excellence
- Protect Environment Health & Safety
- Ensure Compliance
- Manage Intellectual Property
- Ensure Workplace & Travel Security
- Minimize Enterprise Risk
- Manage Governance
- Control Internally & Audit
- Manage Legal Affairs
- Manage Export Control

Manage Digital Technology

- Ensure Cyber Security
- Discover Data and Ensure Accessibility
- Manage Data Governance and Quality
- Apply Artificial Intelligence (AI)
- Collaborate & Communicate
- Manage IT Infrastructure & Assets
- Manage Applications & Platforms Services
- Manage IT Identity & Access
- Enable Digitalization
- Integrate Applications & Data

Administrate Business

- Manage Corporate Portfolio & Services
- Manage Business Demands
- Manage Communications & Government Affairs
- Manage Mergers & Acquisitions
- Provide Employee Self-Services
- Manage Facilities & Locations
- Manage Sustainability
- Develop Strategy
- Manage Ventures

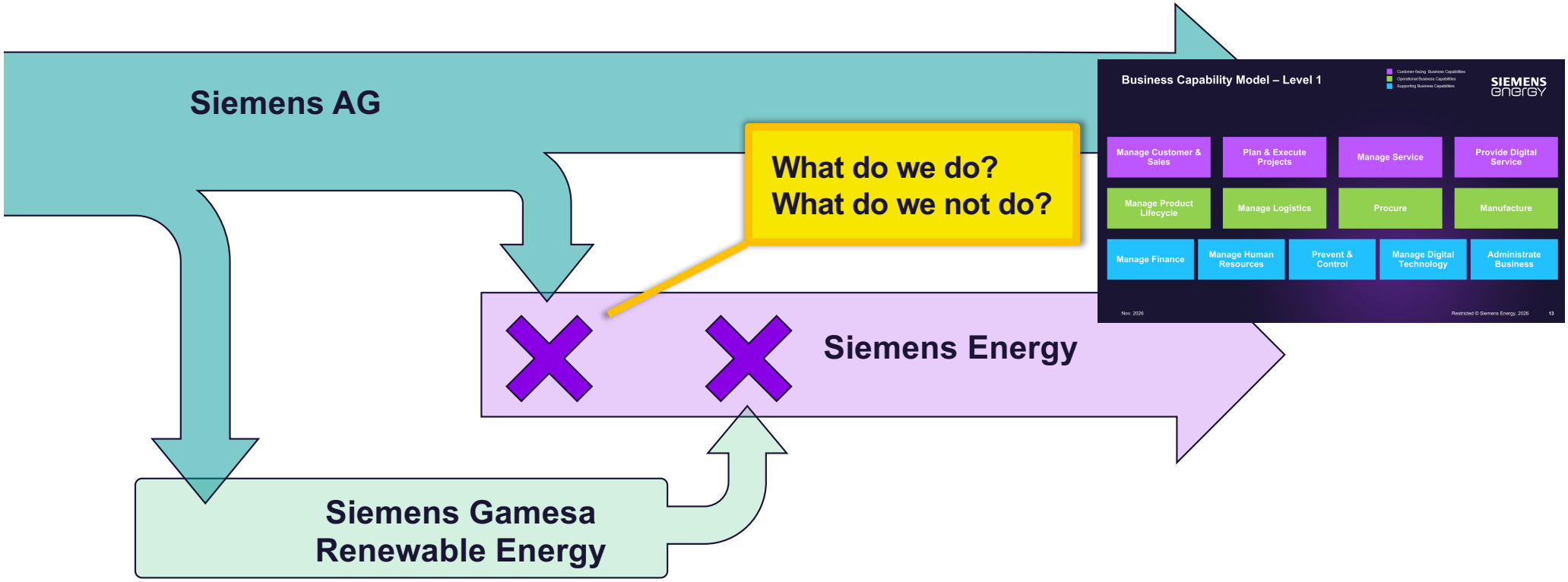
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Business Capabilities supports strategy, innovation and changes

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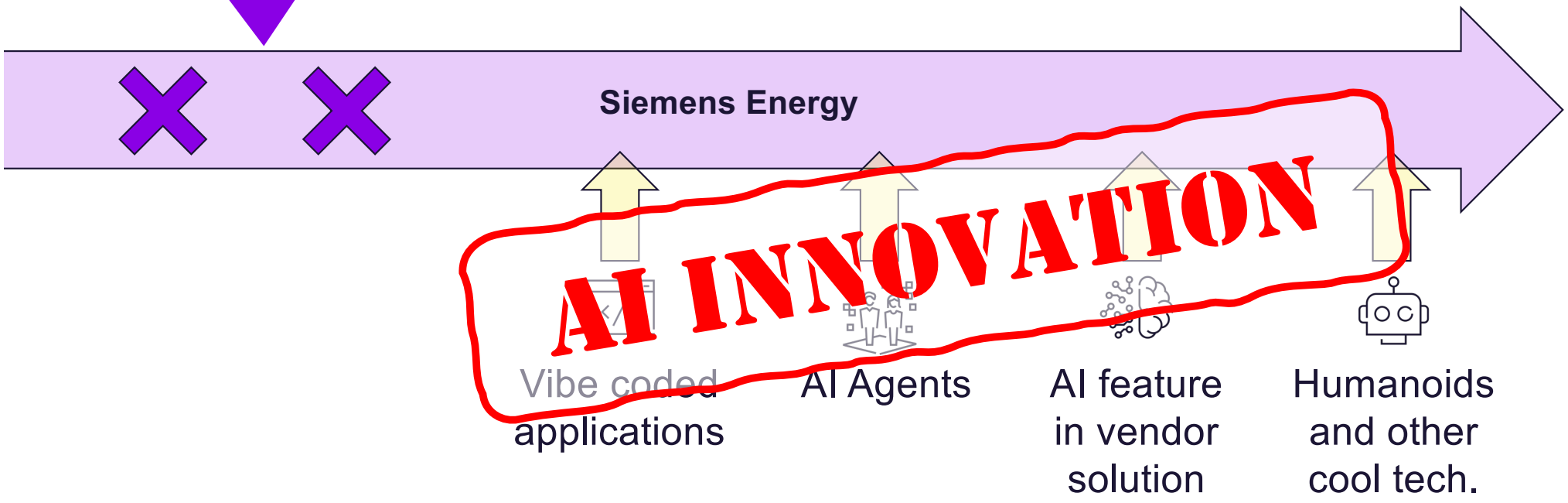
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BCM supports strategy, Innovation and changes



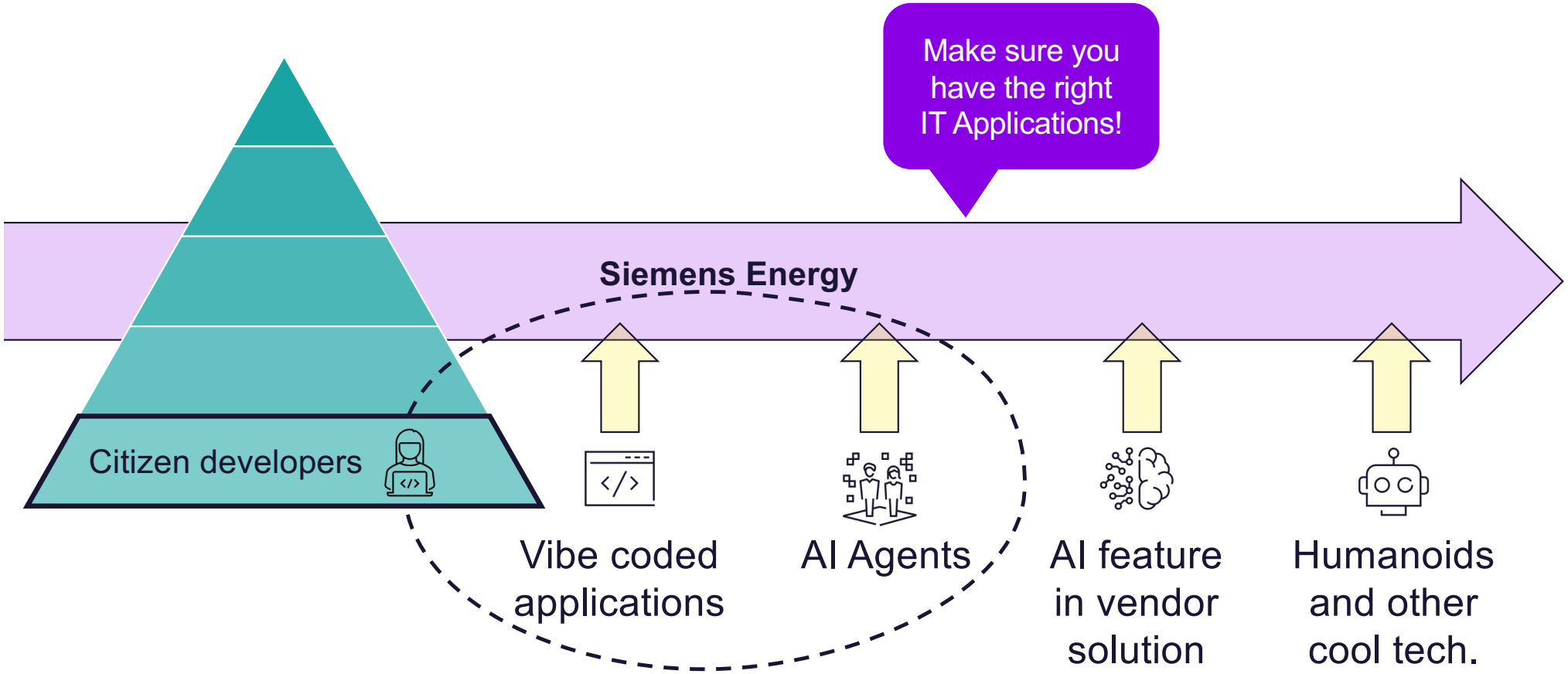
BCM supports strategy, Innovation and changes

Make sure you have the right IT Applications!



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BCM supports strategy, Innovation and changes



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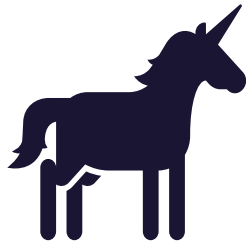
Application Portfolio Management

1. Application inventory,
   including lifecycle management

2. Application analysis
   Costs, Data, Usage, Technology, etc.

3. **All Applications are mapped to a Business Capability.**

AI is not magic
AI is Code

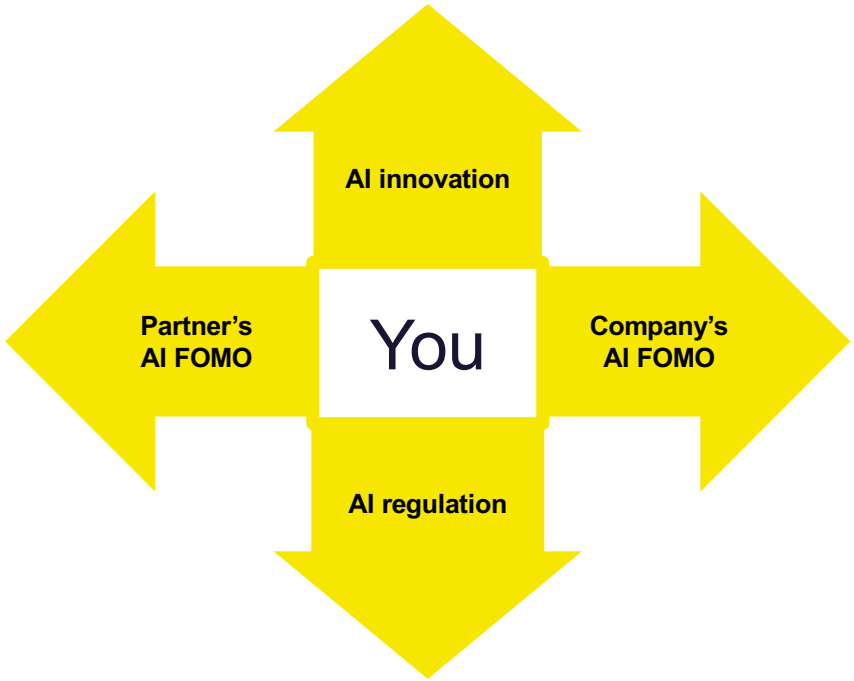


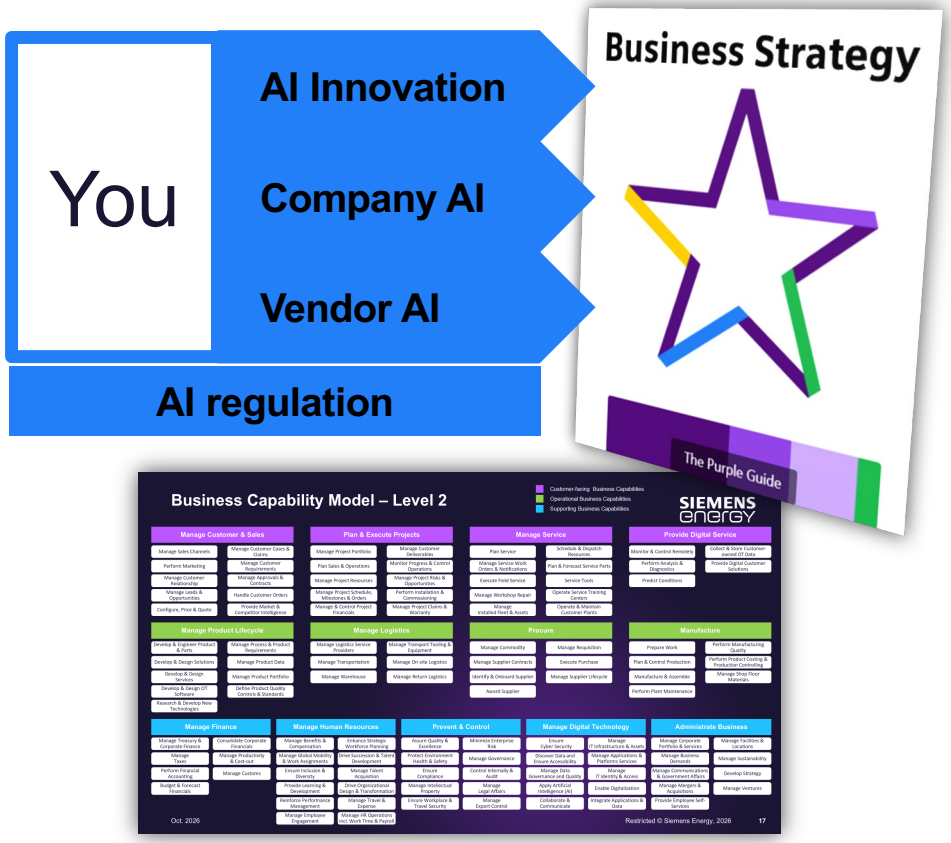
AI solutions are very close to Applications
AI Agents are (in a way) close to employees

We need to have **AI Portfolio Management** and **AI Governance**

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Do not stop the AI innovation, but make the forces pull you in right directions





Where do we put AI in the Business Capability Model?

Manage Customer & Sales

Plan & Execute Projects

Manage Service

Provide Digital Service

Manage Product Lifecycle

Manage Logistics

Procure

Manufacture

Manage Finance

Manage Human Resources

Prevent & Control

Manage Digital Technology

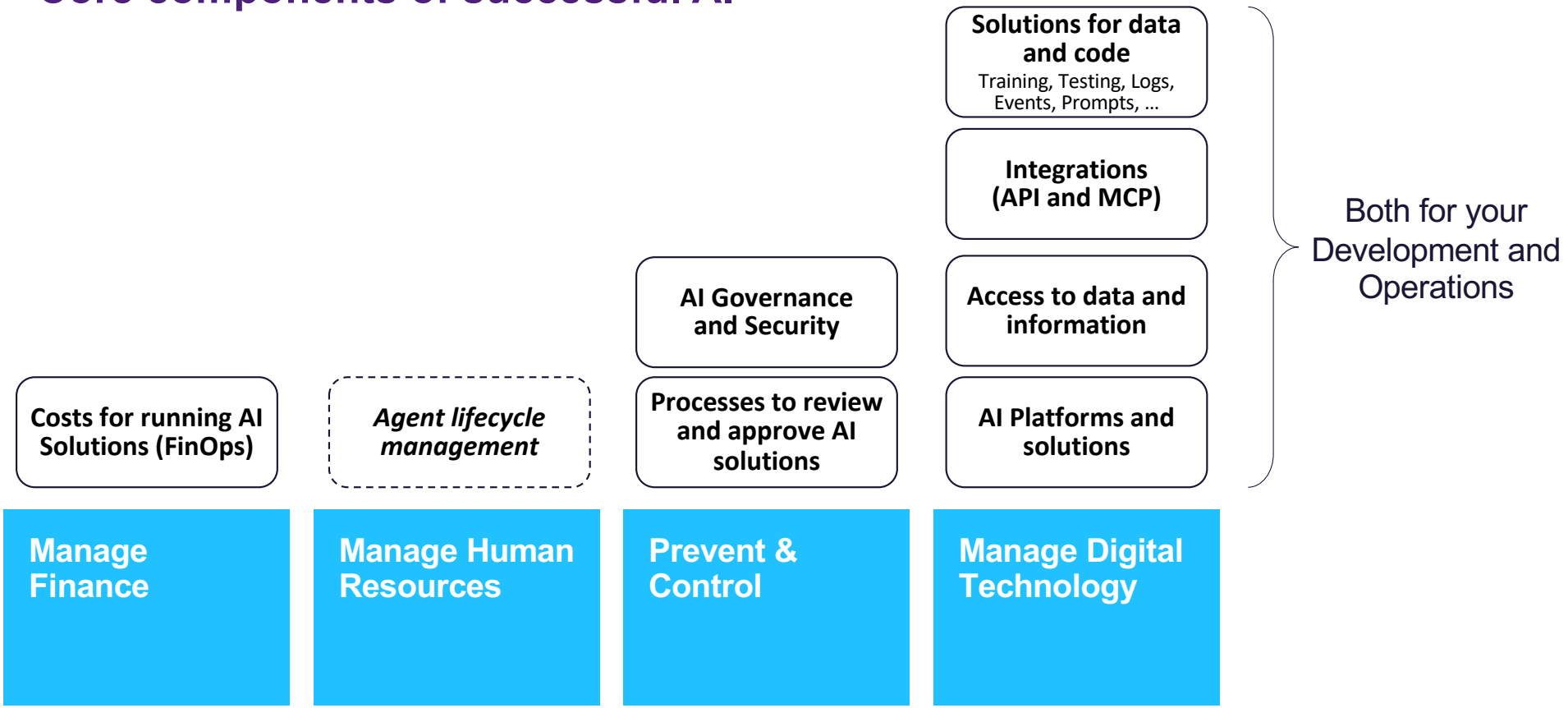
Enable Digitalization

Administrate

…. **Low-code and Citizen Development.**

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Core components of successful AI

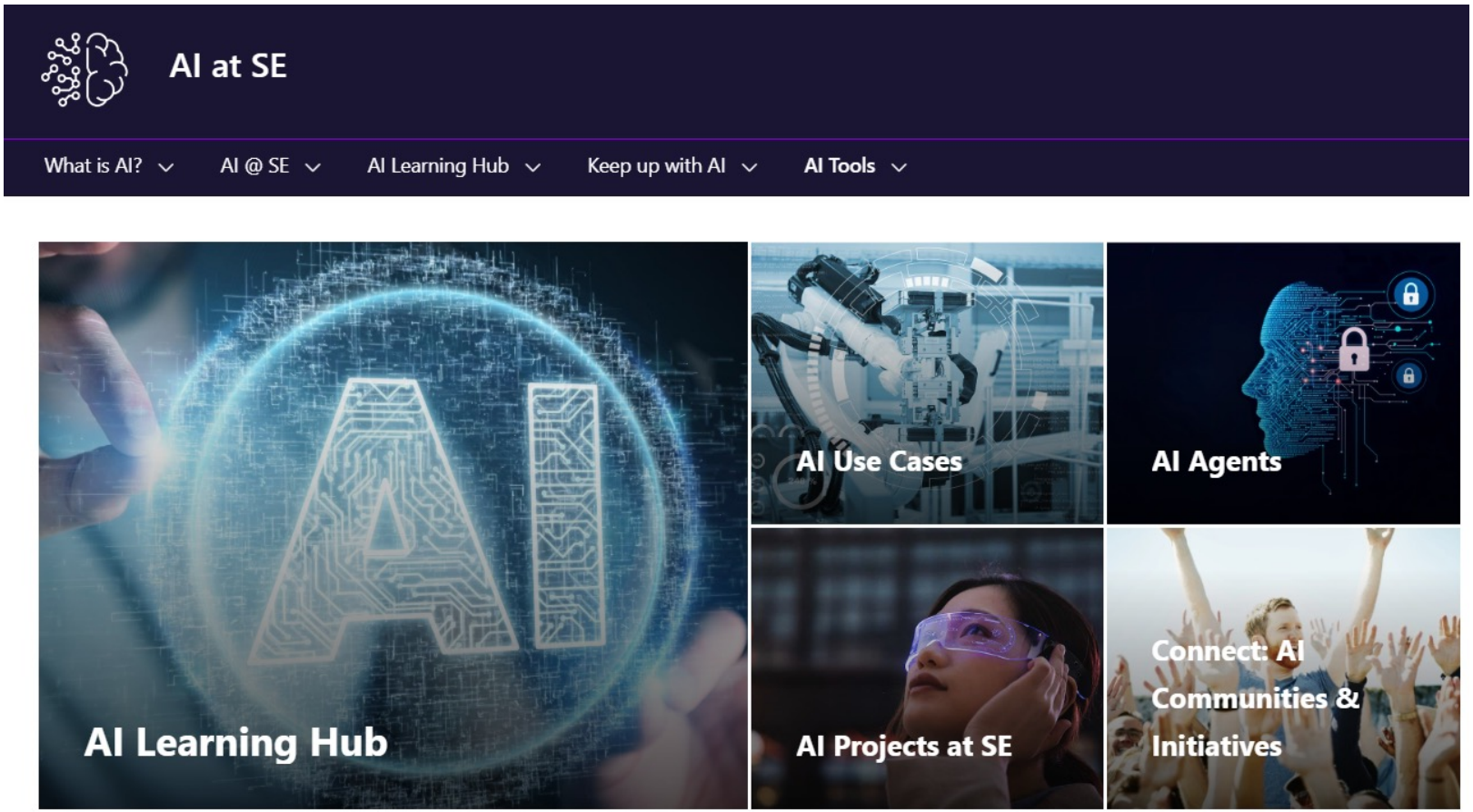


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Allow for innovation but be aware of the risks

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C-level support for AI – Give employees knowledge and skills



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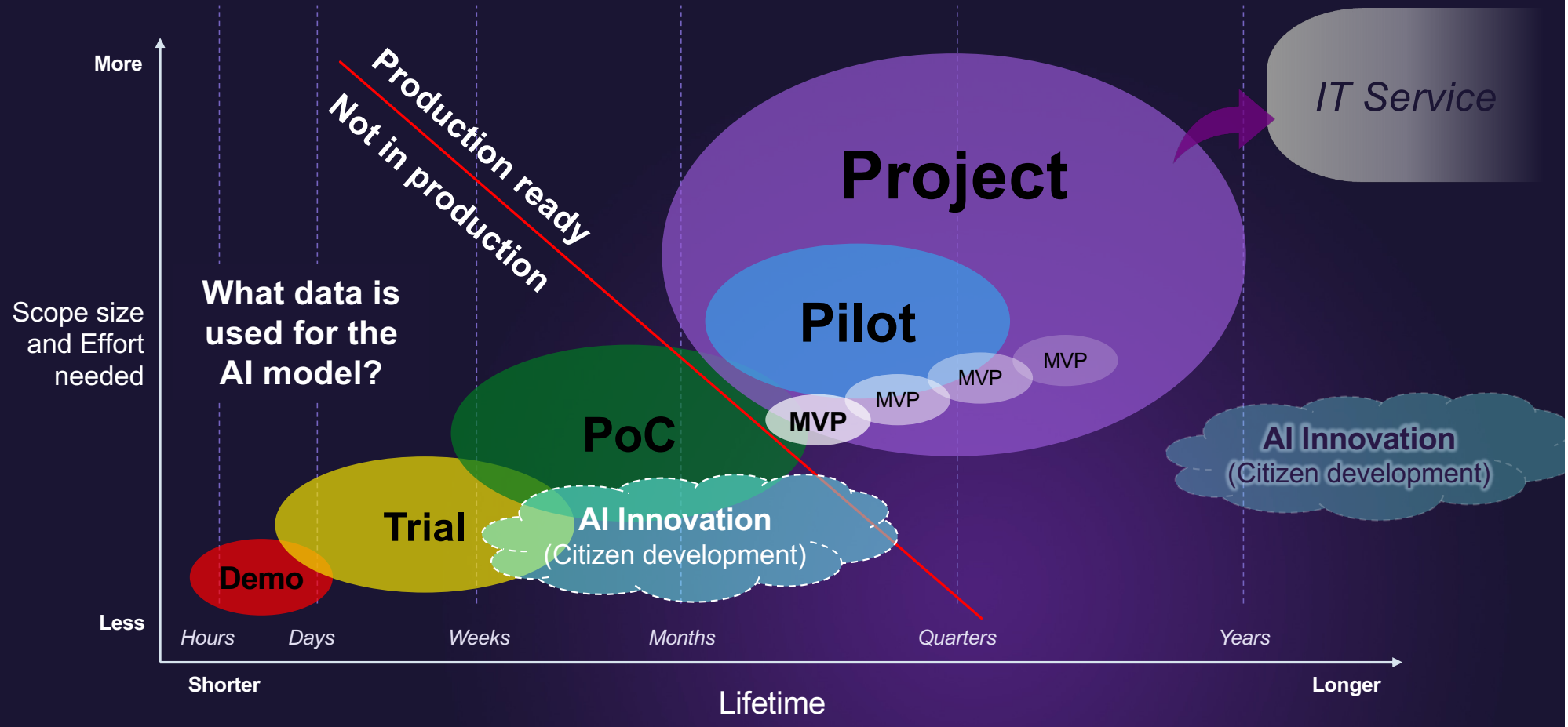
“All AI systems intended for deployment must be registered via the AI Registration Form.

Based on the information provided the system's risk classification and applicable governance requirements are determined.”

AI Governance and our 10 Principles for Responsible AI

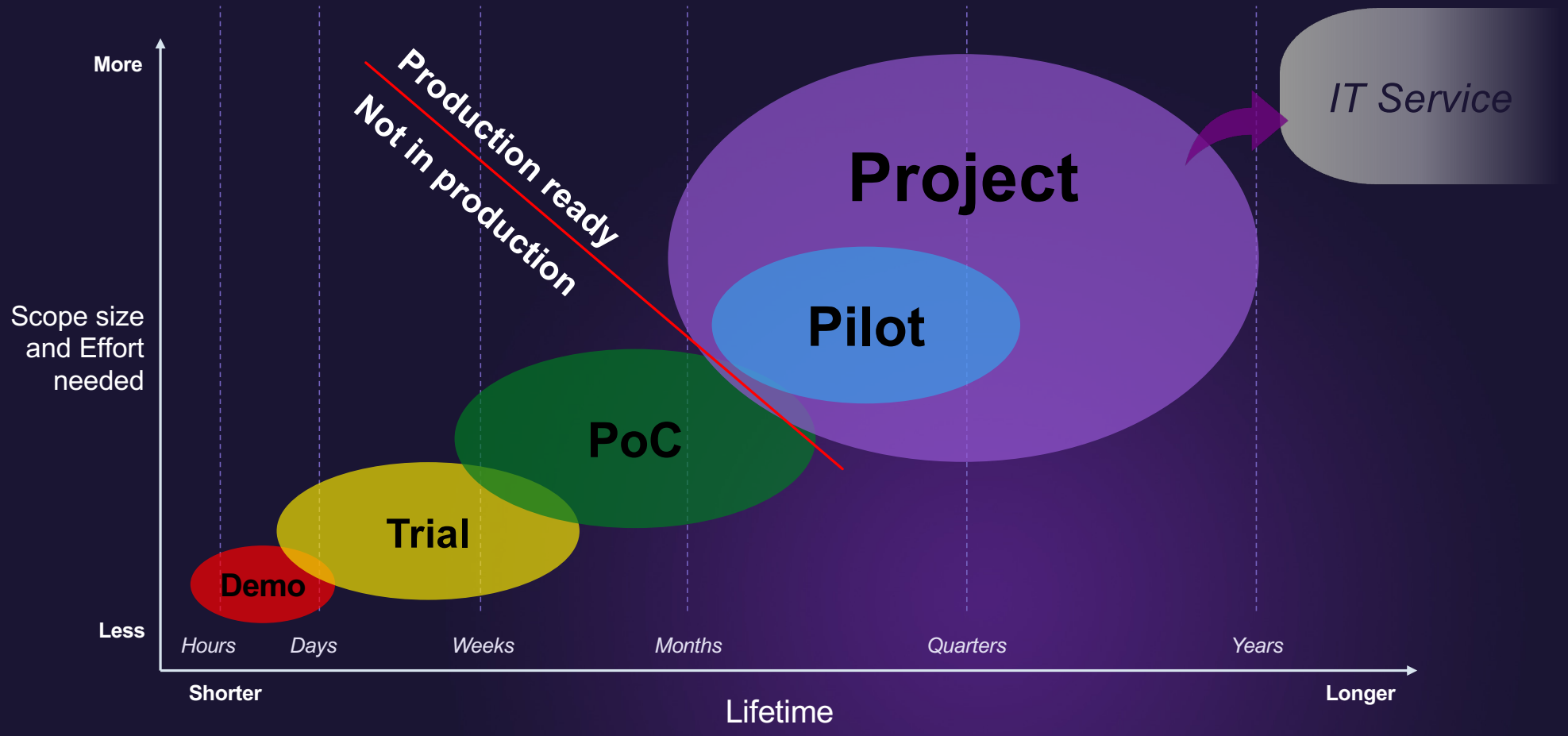
1. Human oversight
2. Accuracy
3. Data Privacy
4. Data Governance
5. Transparency & explainability
6. Technical robustness, cybersecurity & safety
7. Fairness & diversity
8. Sustainability
9. Accountability and Awareness
10. Liability

Difference between Demo, Trial, PoC, Pilot and Project



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Difference between Demo, Trial, PoC, Pilot and Project

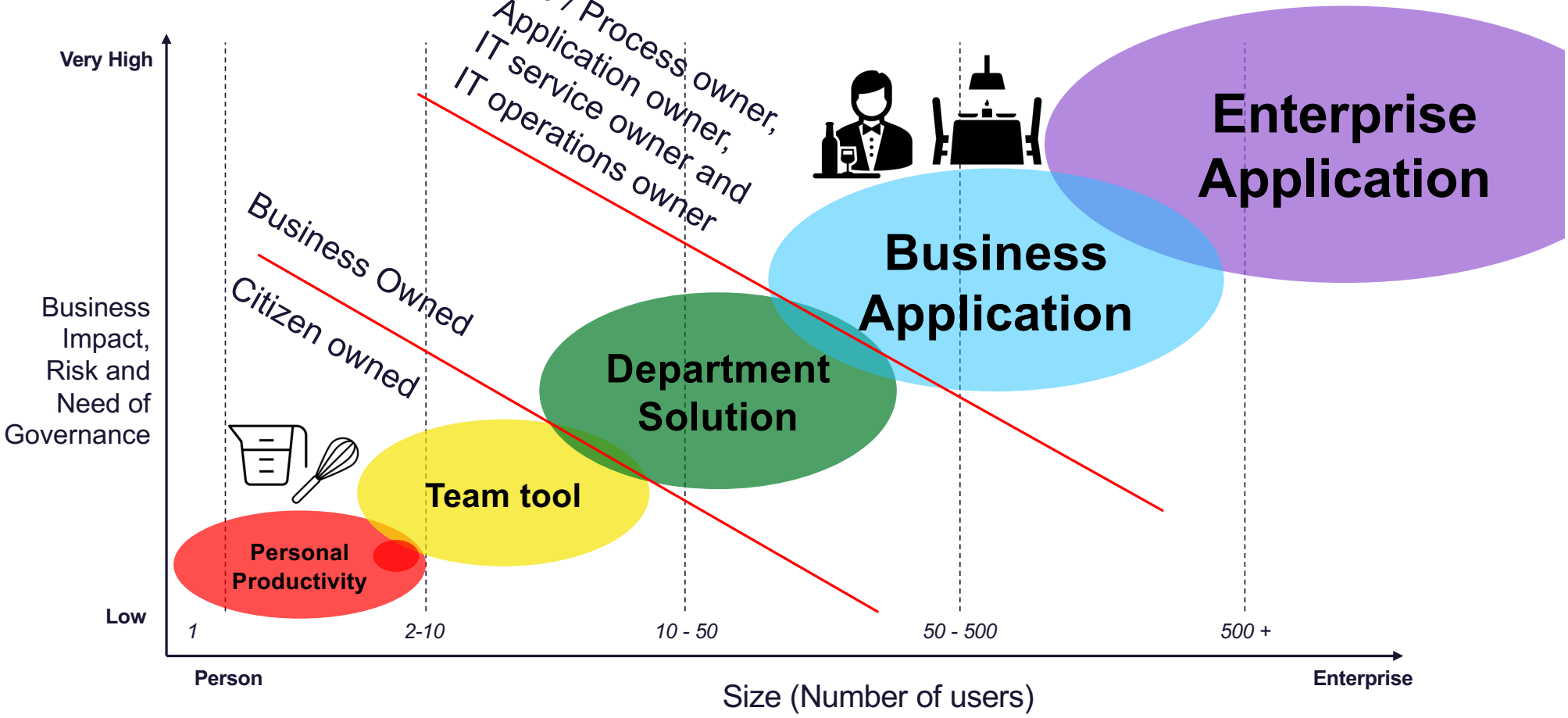


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Details about ”the Difference between Demo, Trial, PoC, Pilot and Project” and what data is allowed to be used

Stage	Description	Data & Information class
Demo (demonstration)	A demonstration is a brief overview of a product’s features and capabilities followed by a live presentation. They are typically the first time a customer sees the product in action. The demo is done in the supplier's environment and with their licenses. Demos should be included in the normal sales work for a company and is therefore free of charge.	In a demo, data and information from the vendor is used. None of your data should be in the Demo.
Trial	A trial is an opportunity for the customer to implement the product in their own environment, like installing a software on a company computer to test it. If the solution is cloud based (SaaS), then a trial login is created, and the tests are preformed online. Trials typically last between 14-30 days and after completion the solution can be thrown away. Data and IDs used during the trial does not need to be saved. If the trial includes hardware, it may involve an agreement to return the equipment or to purchase it at the end of the trial.	Depending on the setup of the trial, either data and information from the vendor or “dummy data” from you can be used. Information classified as Restricted or higher is should not be used.
Proof of Concept (PoC)	This is a more formalized version of a trial that involves a more targeted and guided implementation of the product in the customer’s environment or online in a SaaS solution. The customer and vendor should agree on the specific objectives and outcomes expected, as well as the responsibilities of each party. Normally, some parts of the setup is left out, like Single SignOn with the customer's identity store or integrations to systems in the costumer's infrastructure.	If possible, use representative test data to demonstrate the solution’s functionality and benefits. If real data is required, avoid confidential data or higher. The vendor should sign an NDA and ensure proper handling and deletion of data after the PoC.
Pilot	A pilot offers more structure than a PoC and typically follows a commitment from both customer and vendor. While not always required, a pilot should be part of a formal project if planned. It assumes the customer intends to buy the product if the pilot succeeds. Since it uses production-ready systems and data, the following are needed: • A signed contract, even if limited to the pilot. • Cybersecurity controls for the pilot setup. • Infrastructure and, if needed, integration with other systems for data and authentication.	For a Pilot, all data can be used, given that the data protection is setup correctly even in the pilot phase.
Project	Projects usually begin after a purchase and involve collaboration between the customer, supplier, and partners to implement the product. The project can, but does not have to, be executed with the agile methodology and implemented in increments with so called MVPs. A key difference from earlier stages is the successful handover to an operational team.	For a Project, all data can be used, given that the data protection is setup correctly.
MVP - Minimum Viable Product	An MVP (Minimum Viable Product) is part of Agile projects and not used in demos, trials, or PoCs. It’s a basic version of a product with enough features for early users to test and give feedback. MVPs help validate assumptions and guide development through iteration. MVP is a purely technical outcome, the tool for testing and measuring the effectiveness of the features you have created. A pilot project is often referred to as an already workable and marketable solution. A rule of thumb is: • MVP is for you. It allows you to test, observe and reveal insights. • Pilot is for your users. It allows them to use your solution and supply you with the information necessary for your MVP improvement.	

Scaling AI solutions



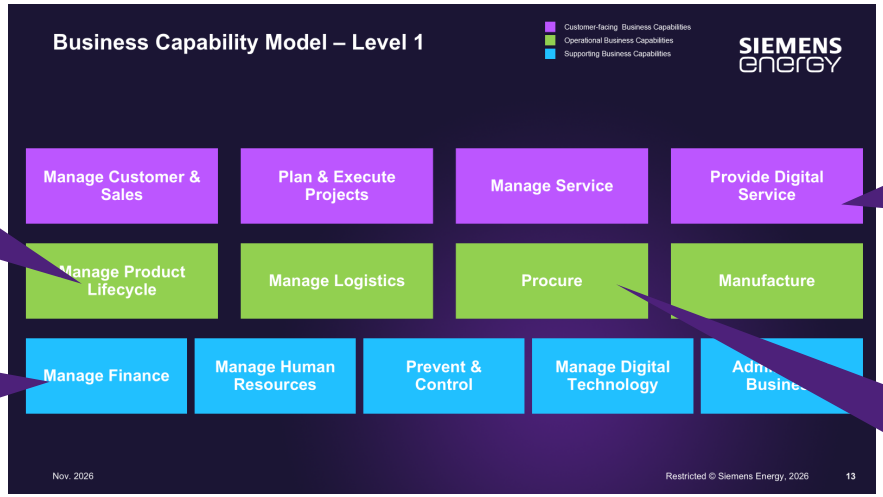
How the BCM and APM helps us decide about AI?

Turn the AI FOMO into a plan and actions.
-”In which capabilities can we benefit from AI technology and how?”



Increase knowledge access and **trust** in information

Automate processes and still be compliant



Make money from your AI solution

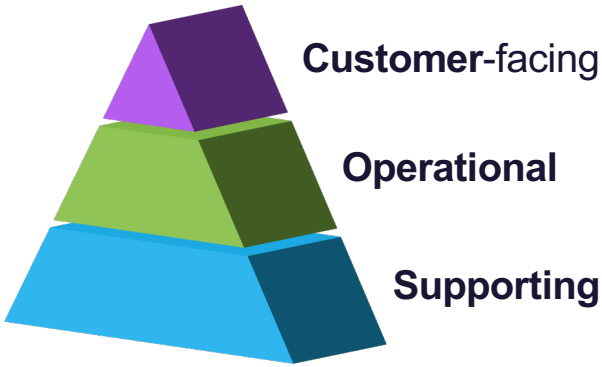
Increase Productivity and value creation

How the BCM and APM helps us decide about AI?

Should we **buy** or **own** the AI solution?

- And the models, training data, logs, infrastructure, etc.

How much risk are we willing to take?



Human Era
People consumed information,
Mistakes were limited by human judgment.

AI Era
Agents consume information,
Mistakes can be amplified at scale.

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Risks with AI

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Ownership & Accountability

- Who owns and controls it?
- Who accepts the risks?
- Who monitors and maintains it?
- Who can decommission it?

Data & Information Risk

- What data is exposed to it?
- Is it confidential, restricted or public?
- Can it access the data it needs?
- What data is logged?

Security & Access

- What data is accessed?
- How is access rights enforced?
- Are integrations and APIs secure?
- Can data leak (internal/external)?

Legal & Regulatory Compliance

- Does it comply with law (EU AI Act)?
- Is human oversight needed?
- Can the output create legal liabilities?
- Can we demonstrate compliance?

Ethical & Reputational Risk

- Is it biased, unfair or discriminating?
- Can it impact safety, quality or trust?
- Do we control harmful output?
- Who trains and fine tunes it?

Financial & Commercial Risk

- What is the business value?
- Which consumption model?
- Are costs predictable?
- What and how does the model cost?

Vendor & Strategic Dependency

- Does it depend on a single vendor?
- Who owns models, prompts, and generated content?
- What is the vendors AI strategy?

Trust, Explainability & Auditability

- Can/will you check accuracy?
- What level of errors are accepted?
- Can decisions be explained?
- Can it pass an audit?

Operational Resilience

- Where does it run?
- Is it business critical?
- What does it depend on?
- Where is it hosted?

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AI story

Ownership & Accountability	Data & Information Risk	Security & Access
1. John creates an AI agent with a chat interface to the PLM application to find product information.	2. He is a “Normal PLM user” and the agent runs as him, with his access rights.	3. He must re-authenticate the agent after the login session time has run out.
4. John shares the agent with his colleagues, and they love it. Chat is better than old fashion search.	5. John’s colleagues have the same role and access as him and work with the same data scope in the PLM application.	6. Even if no one thinks about it, the colleagues uses John’s login credentials when using the Agent. Session sometimes times out.
7a. John enhances the agent and it now accesses three other IT solutions. 7b. John joins a new, secret PLM project.	8. The agent uses content and data from more sources and can share this with users that do not have source system access.	9. The agent also has access to the confidential content. This is now shared with un-authorized users without the owner’s knowing.

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Summary

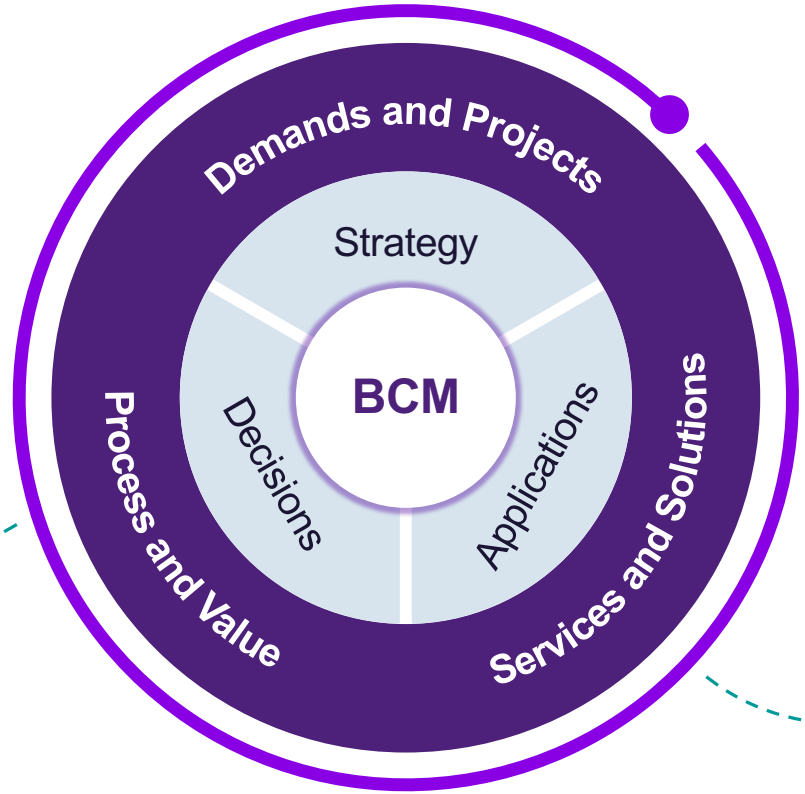
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The BCM is the center of Enterprise Architecture

Focus on the business needs.
AI is a tool that strengthens your capabilities, not the objective itself.

Scale with confidence
Structure AI use cases and introduce them wisely and “slow” across the Enterprise.



Create the foundation
Use AI platforms that you trust, are secure and with a solid operating model.

This is important for innovation and successful AI growth.

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Summary

- The AI revolution does not remove the need for structure. It makes it even more important.
- Having a stable foundation and a clear way of working helps you manage AI use cases.
- Decisions must be anchored with the major stakeholders, like Process Owners and Business area heads.
- The latest, smartest and most expensive algorithms does not make you successful.

- If you do not have a business capability model, think about creating one.
- Use the Internet and/or AI to generate it.
- Implementing a Business Capability Model takes time, so be patient and do not rush.

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Thank you!



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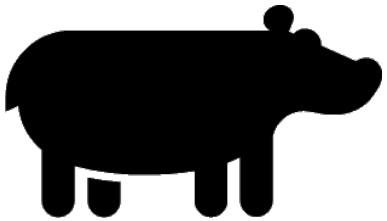
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BONUS : Notice the Hippo

Sometimes decisions are based on opinions and not facts.

They bypass logic, agreed processes and impact your plans.

If you have no idea where a specific KPI, Process change, vendor selection or budget decisions came from, It could be that a Hippo is involved…



Hippo-Decision

- **Hi**ghest
- **P**aid
- **P**ersons
- **O**pinion

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