IT Enabled Business Transformation

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Topics

- **What is IT Enabled Business Transformation?**
- Planning and Designing a Transformation Programme
- One Critical Tipping Point
- Case Studies
- Conclusions

IT Enabled Business Transformation

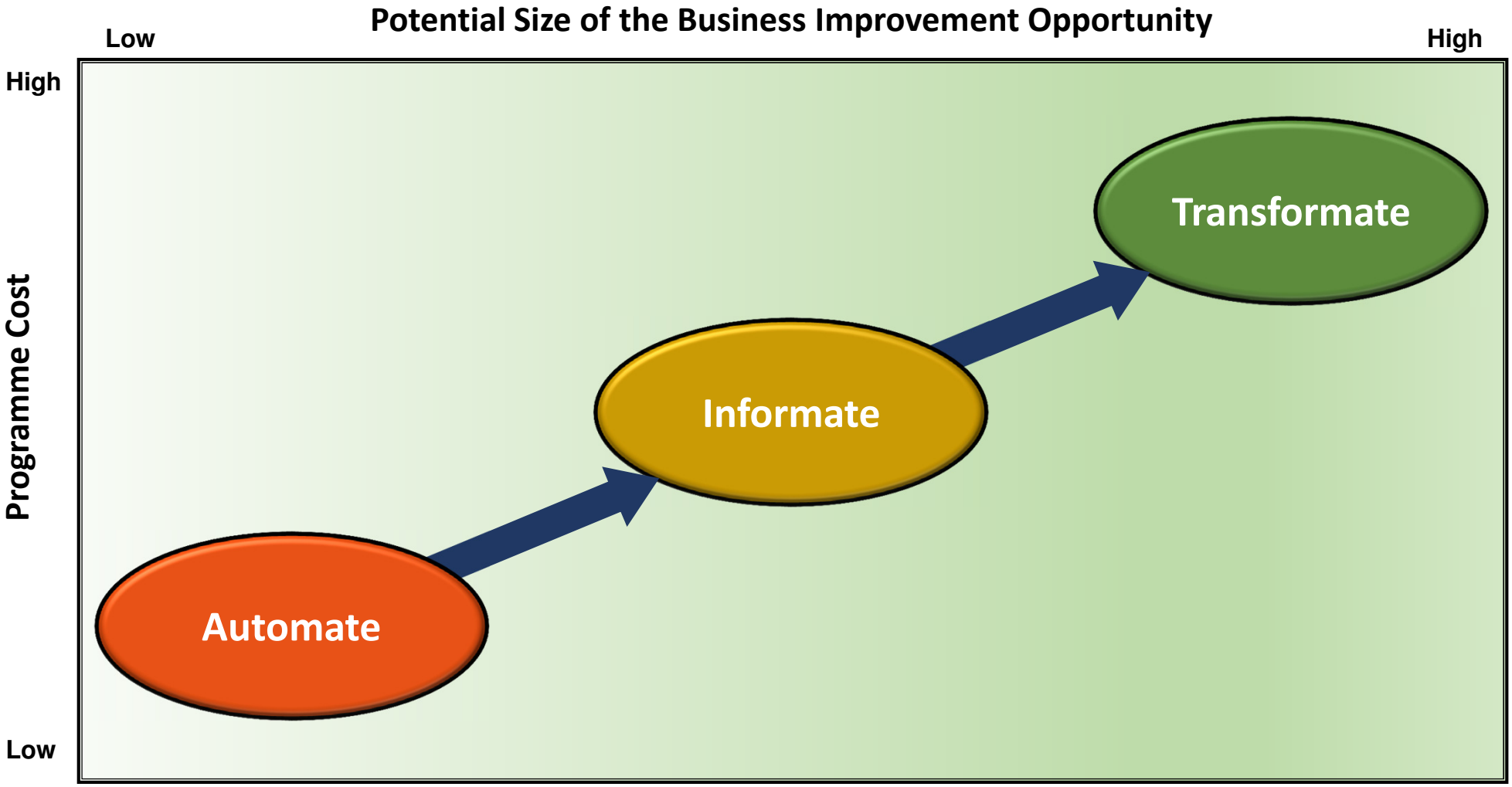
Increase
Business Efficiency

Create
Business Effectiveness

Transformation Drivers

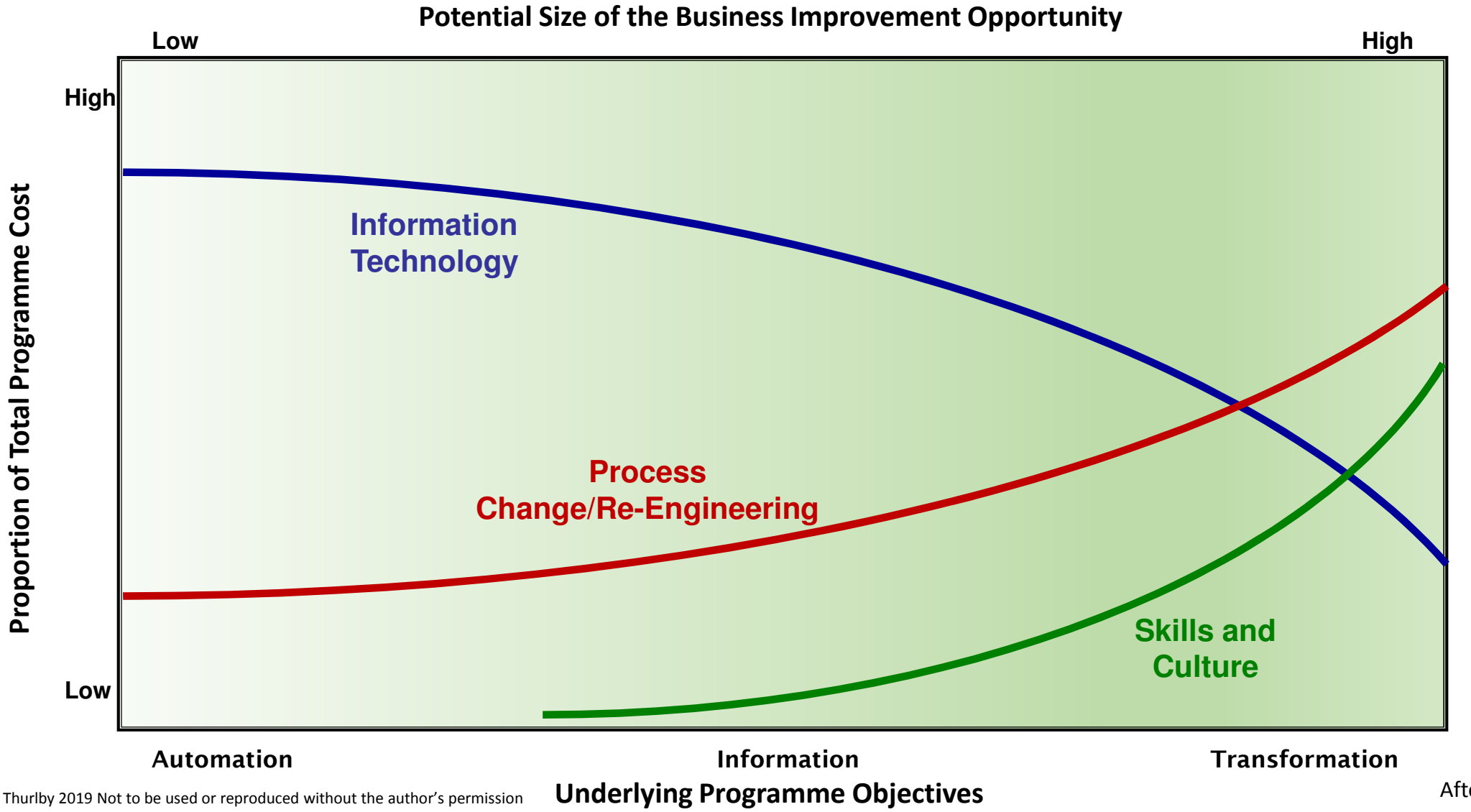
- **Competition and competitive advantage**
- **New technologies**
- **Regulation and Legislation**
- **Revenue, Costs, Profitability**
- **Shareholders and Pressure Groups**
- **Fear**

IT Enabled Business Transformation



After Zuboff

IT Enabled Business Transformation



After Zuboff

Topics

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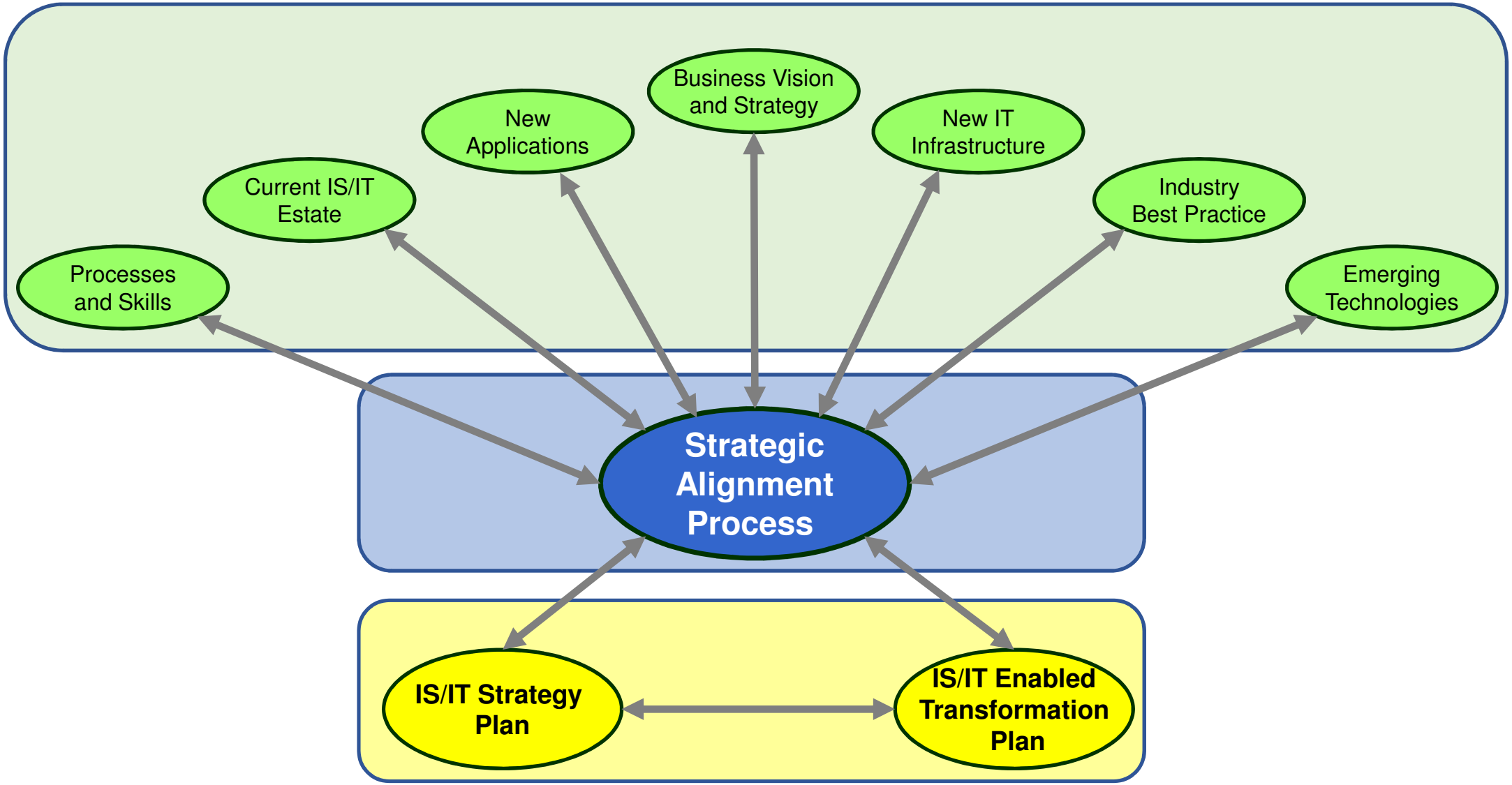
Strategic Alignment:

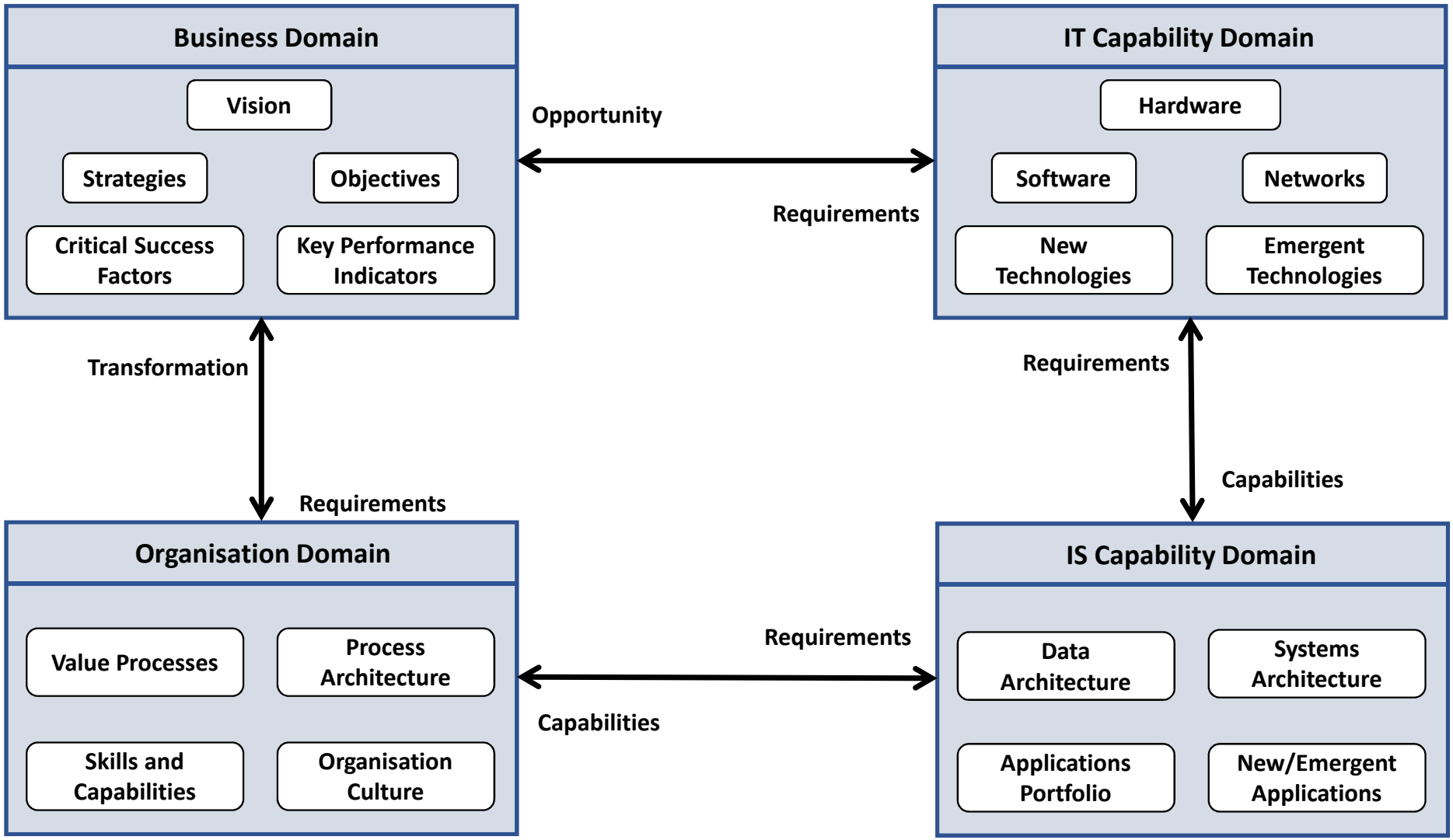
A approach to the planning and design of a transformation programme

- **A semi-formal method to help an organisation define:**
  - The optimum IS/IT strategy that will enable an organisation to achieve its strategies and objectives.
  - How emergent and newly established IS/IT can be used to enable new and improved strategies and objectives that will increase the organisation's overall effectiveness.
  - The contents of the programme and their dependencies
- **It helps an organisation answer 3 basic questions:**
  - What is the IS/IT capability needed to support delivery of the current business strategies?
  - What are the development and delivery imperatives for this capability?
  - What are the opportunities to use IS/IT to create and adopt different business strategies?

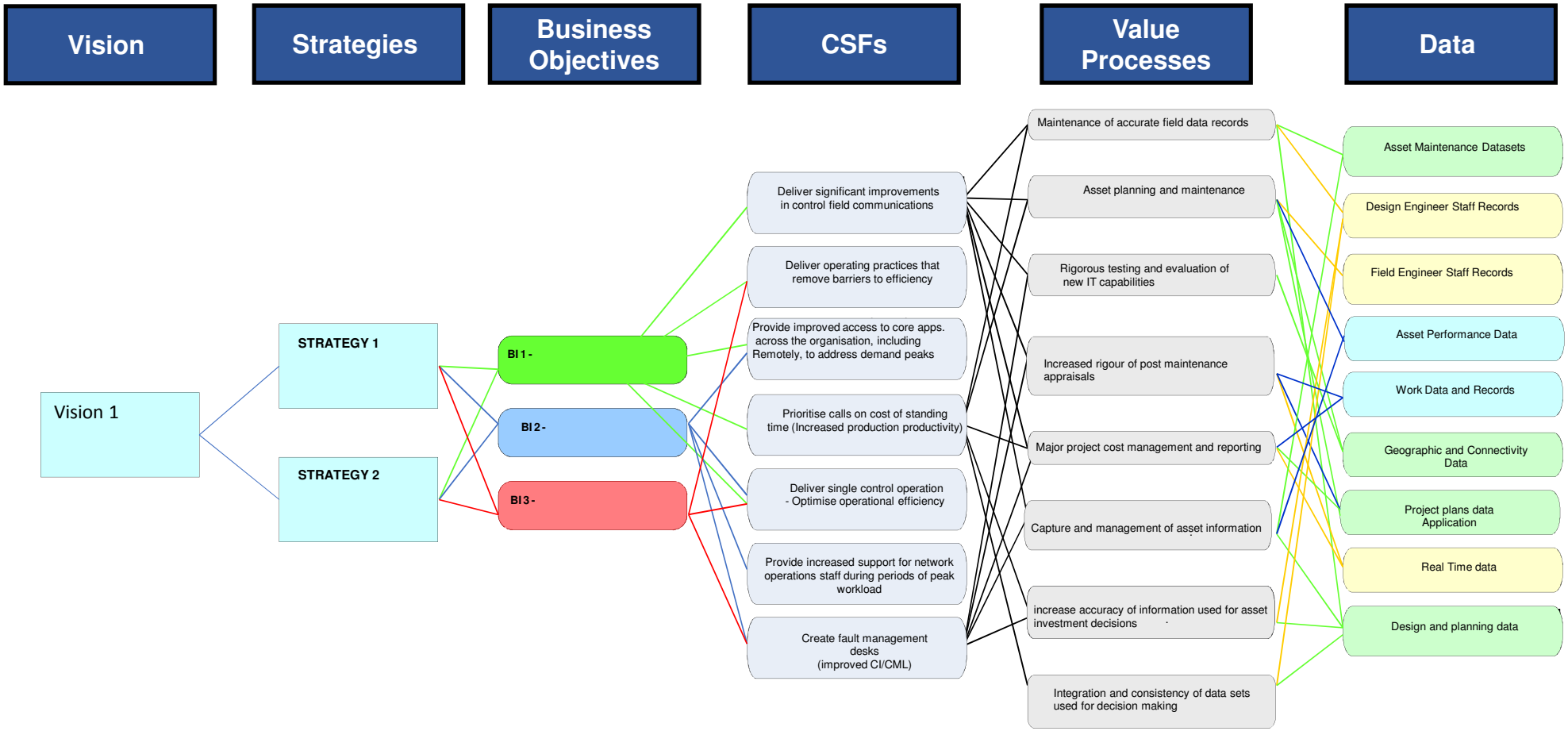
Strategic Alignment: Inputs and Outputs



Strategic Alignment: Model Objects and Linkages



Strategic Alignment: Object Linkage Example



Note: The diagram is taken from the report produced by a Strategic Alignment Project carried out for a major UK utility.
To maintain commercial confidentiality some of the text and the linkages have been altered.

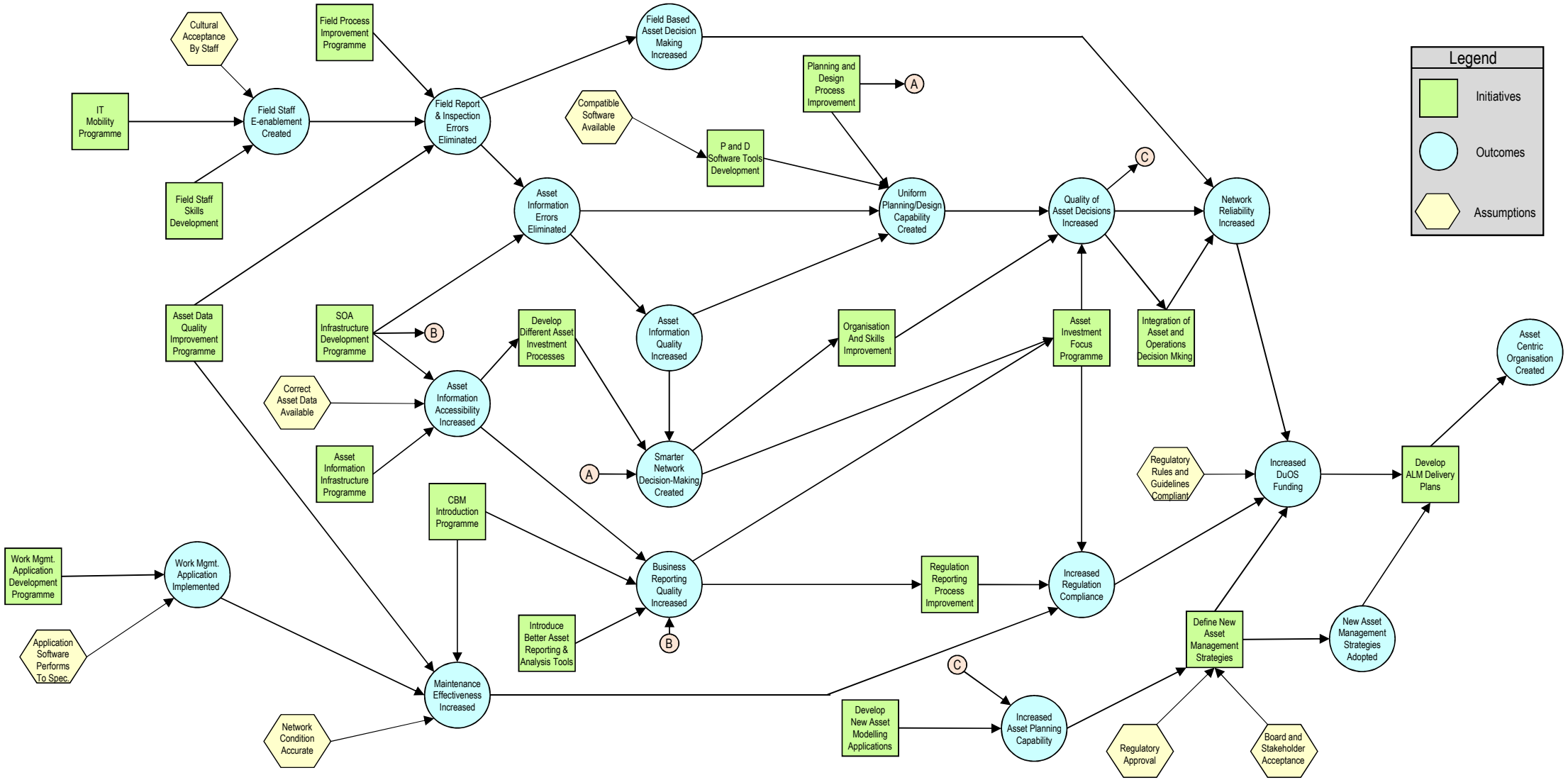
Results Chains:

Developing a Transformation Plan

- **A reasoning and modelling tool which:**
  - Identifies the relationship between projects (**initiatives**) and their deliverables (**outcomes**).
  - Defines how initiatives contribute towards achievement of objectives.
  - Defines the dependencies between initiatives and the logical sequence for development.
  - Forces quantification of the benefits delivered by each outcome.
  - Eliminates double counting of benefits
  - Identifies and defines risks (**assumptions**) and where their impact will be.

- **Defining Outcomes :**
  - All initiatives must have an outcome which can be quantified
  - The "**MEDIC**" notation provides an effective way of doing this.
    - **MEDIC**
      - **Maintained**
      - **Eliminated**
      - **Decreased**
      - **Increased**
      - **Created**
  - Note "improved" is not an acceptable outcome – it is too vague.

Results Chain Example: Level 0 Model for a Business Objective



Strategic Alignment and Results Chains Summary

- **The Strategic Alignment process will provide information to help define the critical elements of the IS/IT Strategy and IS/IT Enabled Transformation Plan:**
  - The IT infrastructure required – hardware, software, network, etc.
  - The applications and data architecture required
  - Which elements of the existing architectures can be retained and which have to be replaced.
  - Identification of the new and emergent technologies which will be needed to deliver the existing business strategies
  - Identification of the new and emergent technologies which will have the potential to change business strategies.
- **The Results Chain will add further detail to the IS/IT enabled Transformation Plan**
  - Business priorities
  - Technical and organisation dependencies of the technologies and architectures
  - The applications that can be delivered immediately and will deliver immediate business benefits – the “Low Hanging Fruit”.
  - Costs, Risks and Benefits.

Topics

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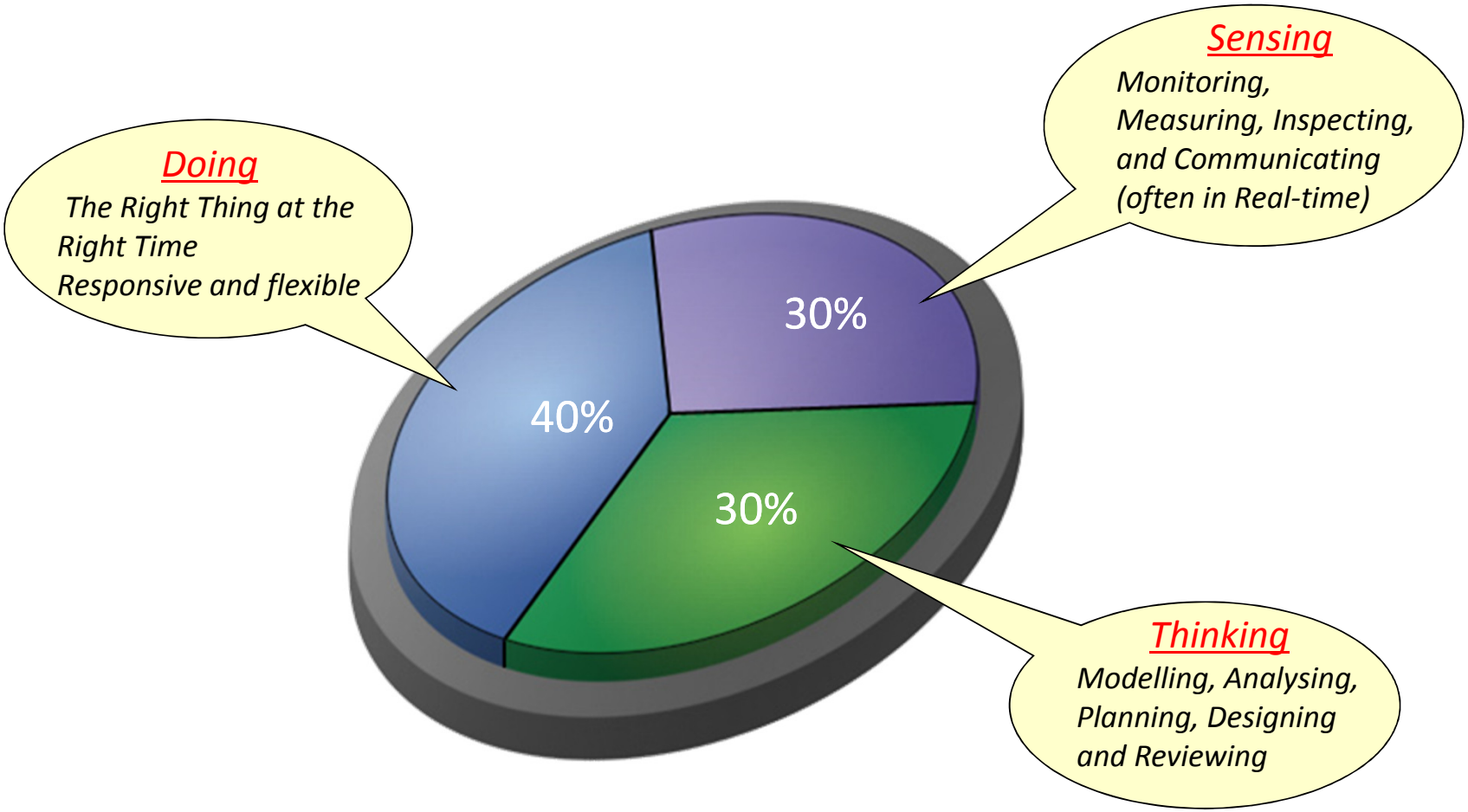
IT Enabled Business Transformation:

a Tipping Point: The Sense-Think-Do Paradigm?

Past → **Future**

The New Sense-Think-Do Paradigm



Sense-Think-Do Paradigm Shift

- Potentially transforms the way organisations run their operations
- Change from **Doing Things Right** to **Doing the Right Things**
- 4 technology developments have fundamentally changed this paradigm
  - Measurement and recording technologies –often in real time - **Sensing**
  - Wi-Fi and the internet to communicate data and instructions
  - Big Data storage technologies
  - Modelling and analytical software - **Thinking**
- Application of these technologies within organisations brings further benefits
  - Flexibility – ability to respond to changes in the business environment
  - Agility – ability to change quickly
  - Competitiveness – ability to influence the market
- Technology alone won't make it happen
  - New processes
  - New skills
  - Different culture

Topics

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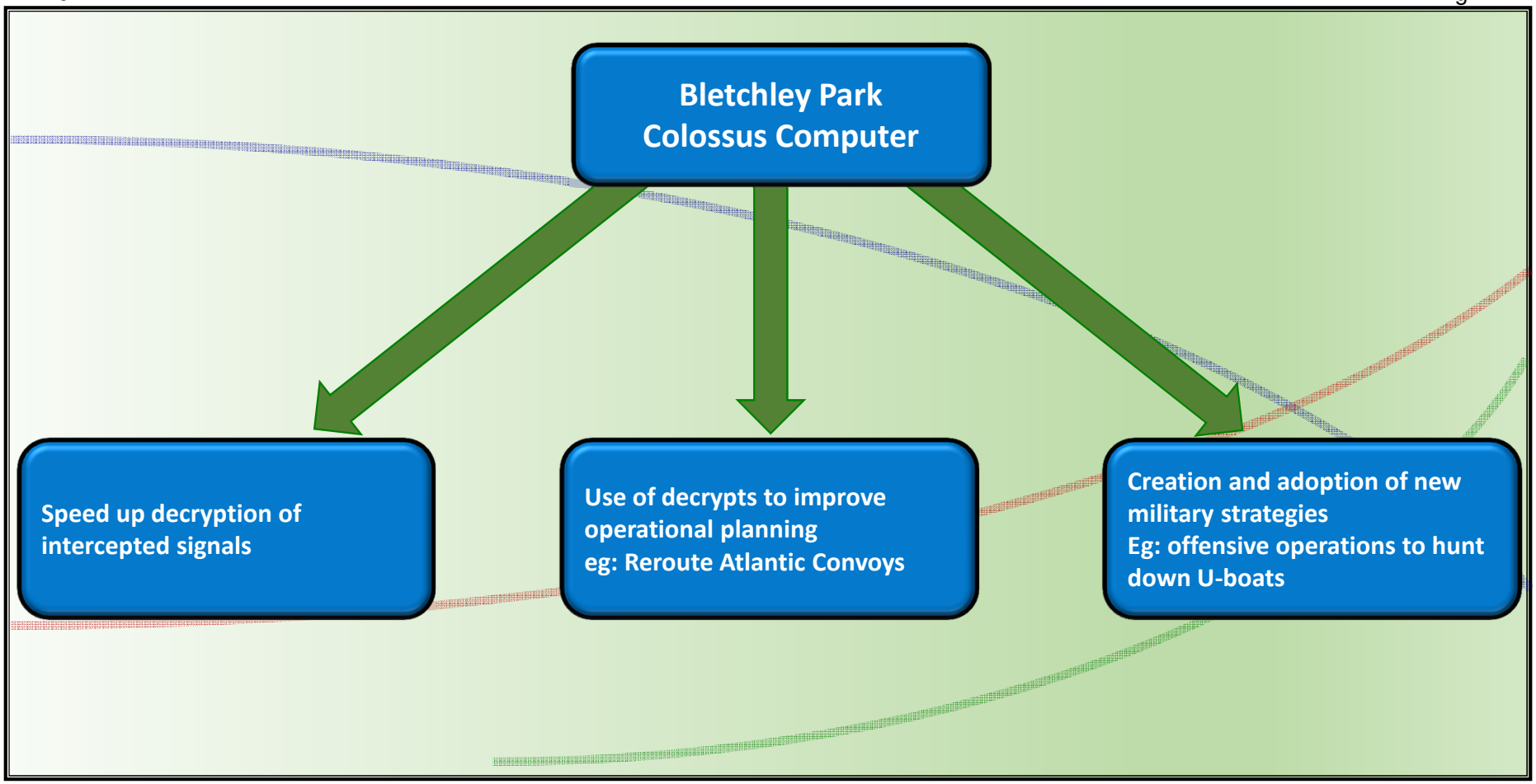
Examples of IT Enabled Business Transformation

Sector	Programme	Technology	Change		
			Automation	Information	Transformation
Defence	Sigint	Sensors Computing			
Utilities Electricity Distribution	Asset Management	Big Data / Analytics Computing			
Utilities Electricity Supply	Smart Metering	Sensors / Control Systems Internet/Wi-Fi Analytics / Computing			
Retail	On-line Shopping	Internet/Wi-Fi Big Data / Analytics Computing			
Health	Patient Records	Internet/Wi-Fi Big Data / Analytics Computing			

IT Enabled Transformation Programmes - 1

Potential Size of the Business Improvement Opportunity

Low High

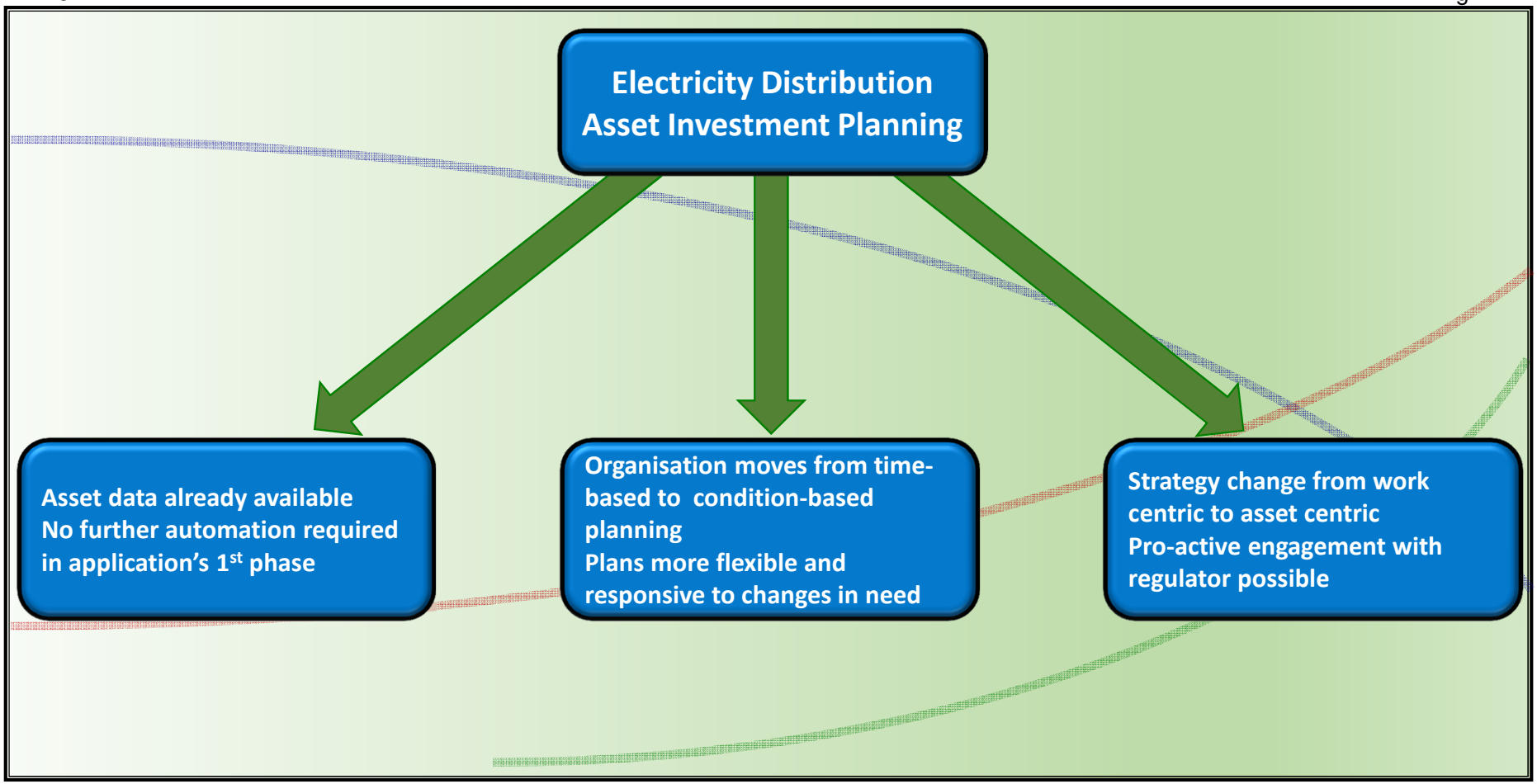


Automation **Information** **Transformation**

IT Enabled Transformation Programmes - 2

Potential Size of the Business Improvement Opportunity

Low High



Automation **Information** **Transformation**

Asset Investment Planning in a European DNO

The Problems

- Aging Infrastructure: Asset Time Bomb
- New and possibly more invasive regulation within the next decade

The Approach

- Develop an application that could explore and understand the problems
- Identify potential solutions to the problems
- Define a new business strategy based on the optimum solution

The Critical Questions

- How real was the Asset Time Bomb threat?
- Would the existing business strategy be able to manage the problems caused?
- If not, what strategy would manage the problems?

The Unknowns and Risks

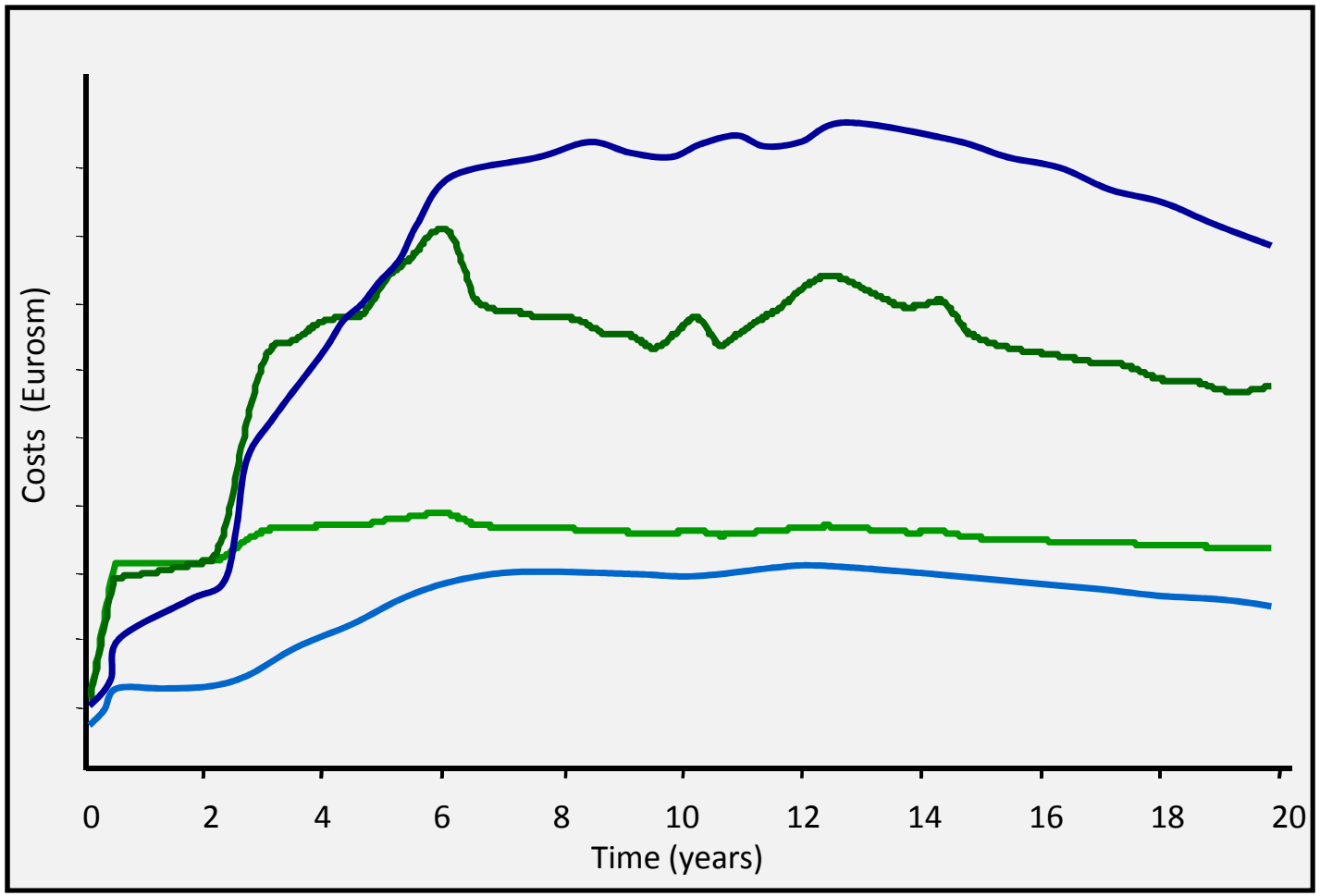
- Technology new to the organisation
- Development approach not been used before
- Data availability
- End user acceptance

Outcome: The Questions Answered

Interruptions Using Existing Asset Strategy

Interruptions Using Optimised Asset Strategy

Outcome: A New Strategy Identified



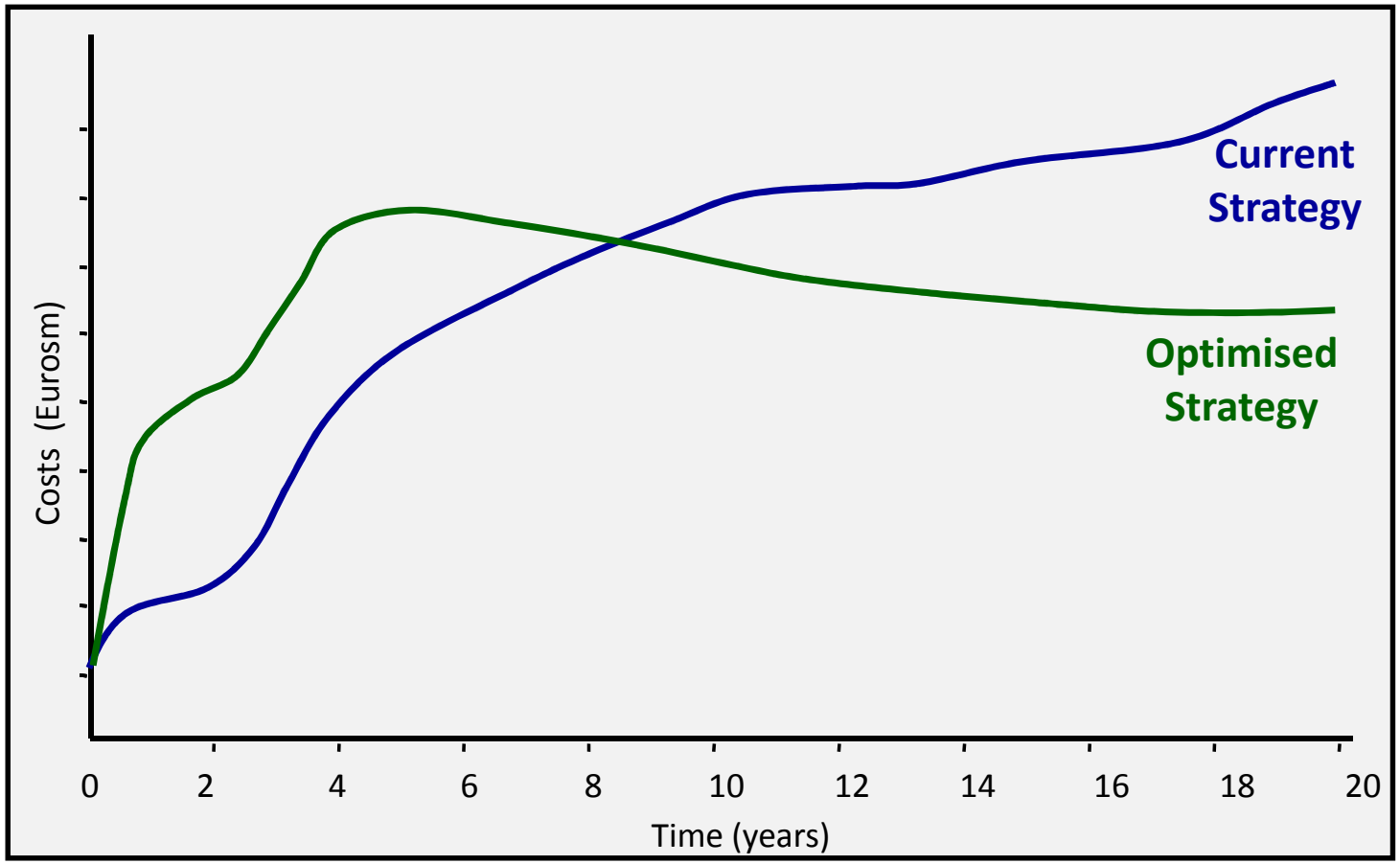
Current Strategy: Opex

New Strategy: Capex

New Strategy: Opex

Current Strategy: Capex

Outcome: Reverse CAPEX:OPEX Ratio



Summary of the Optimised Strategy

- Spend more on asset replacement and refurbishment
- Spend less on asset maintenance
- Higher expenditure in 1st 8 years
- Lower expenditure after 8 years
- Total cost reduction: 220eurosm
- Estimated 2%pa reduction in interruptions

The Result and What Happened Next

Derisking the Project

- Prototype first
  - I Region
  - 3 Asset types
- Use of experienced consultants and modellers
- Rigorous MoSCoW analysis
- Precise documentation of all assumptions, equations and model variables
- End-users forced to provide data and validate
- Incremental development

User Acceptance

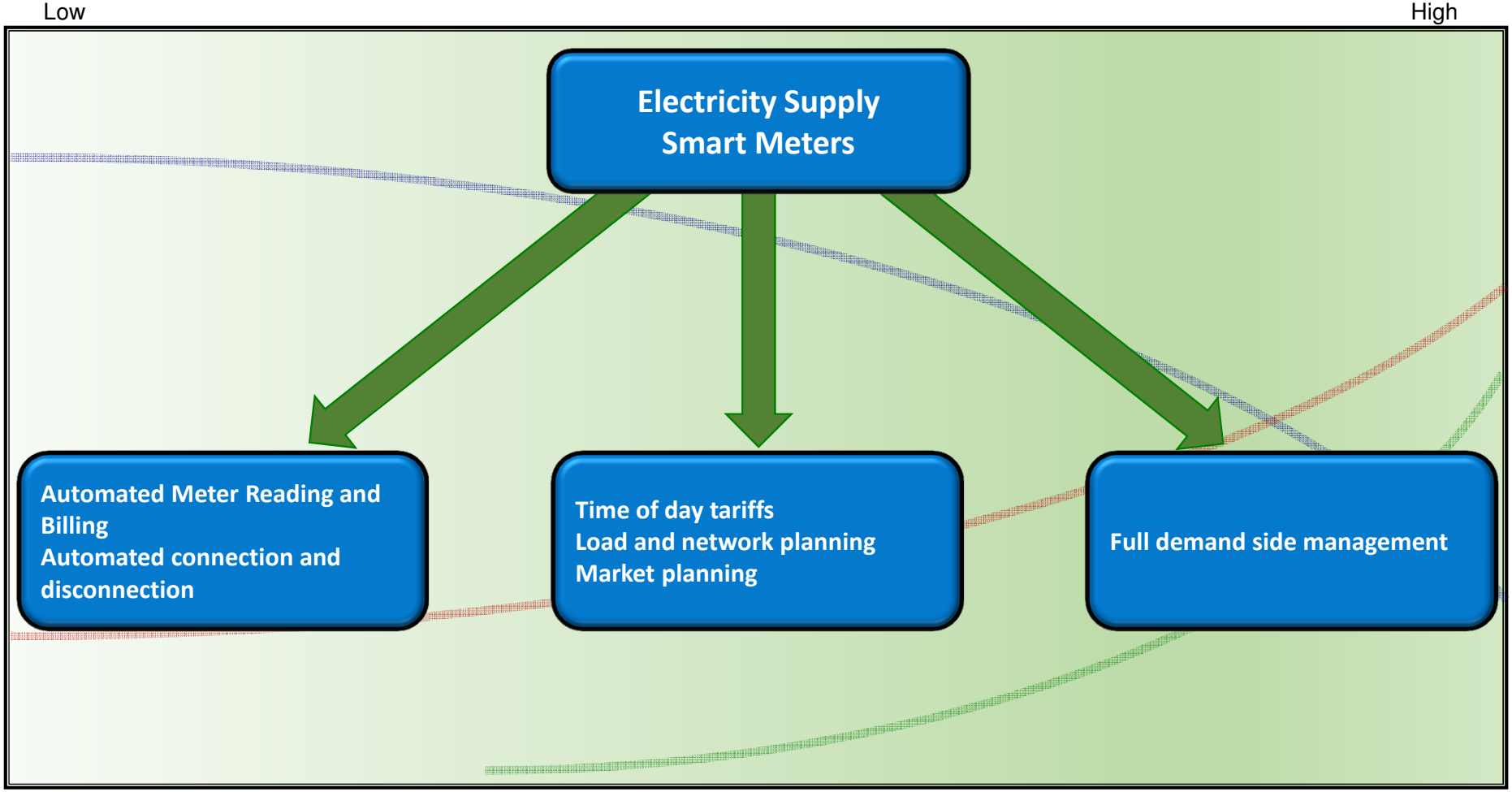
- Initial disbelief about approach and results
- These were overcome by:
  - Heavy and continuous user involvement
  - Data collection and validation
  - Design workshops involving end-users
  - Model testing and evaluation
- User training and more user training
- Top Level management commitment
- Selecting model champions
- "Benefit and Exploitation" workshops

Roll-Out and Exploitation

- Implementation of the model across all regions
- Re-engineered asset planning and design processes
- Application becomes "business as usual"
- Extension of the model's functionality and content
- Recruitment of 300+ engineers
- On-going strategy review and optimisation process
- Realtime network monitoring implemented at lower voltages
- Proactive regulator relationship processes

IT Enabled Transformation Programmes - 3

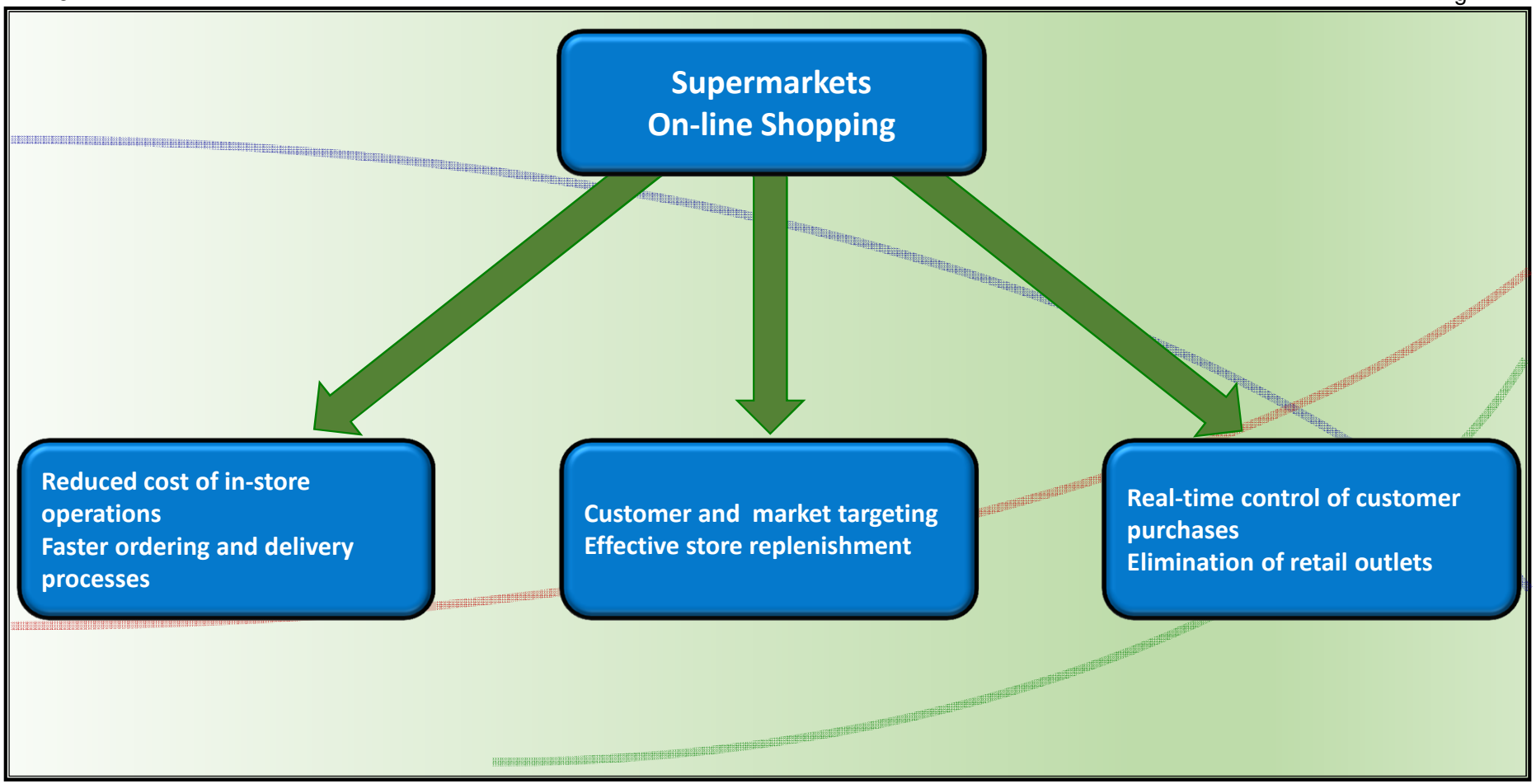
Potential Size of the Business Improvement Opportunity



IT Enabled Transformation Programmes - 4

Potential Size of the Business Improvement Opportunity

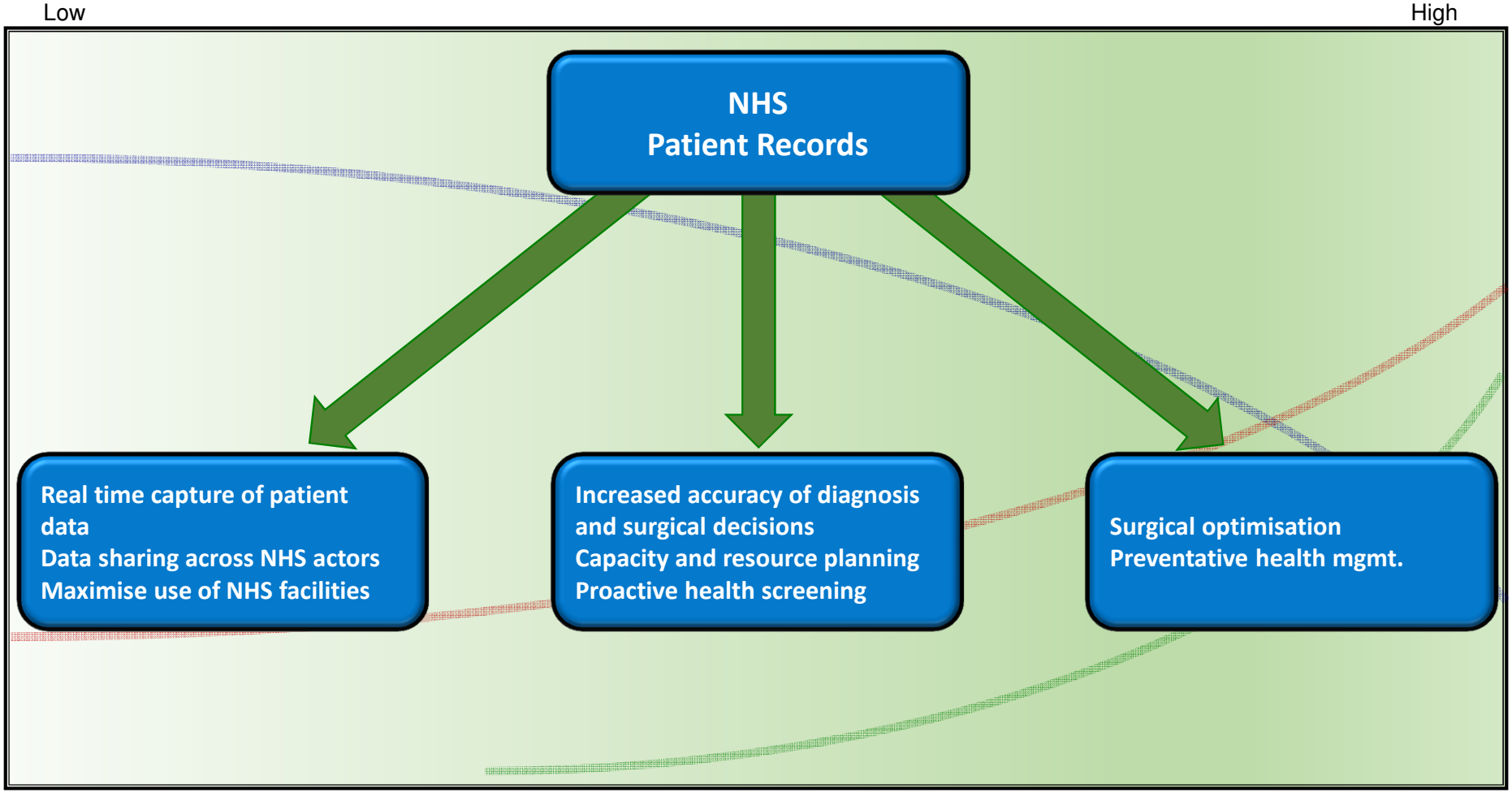
Low High



Automation **Information** **Transformation**

IT Enabled Transformation Programmes - 5

Potential Size of the Business Improvement Opportunity



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IT Enabled Business Transformation Programmes

……..a Reality Check?

Sector	Programme	Technology	Change		
			Automation	Information	Transformation
Defence	Sigint	Sensors Computing	Yes	Yes	Yes
Utilities Electricity Distribution	Asset Management	Big Data / Analytics Computing	Not Applicable	Yes	Yes
Utilities Electricity Supply	Smart Metering	Sensors / Control Systems Internet/Wi-Fi Analytics / Computing	Yes	Yes	Potentially
Retail	On-line Shopping	Internet/Wi-Fi Big Data / Analytics Computing	Yes	Yes	Getting There
Health	Patient Records	Internet/Wi-Fi Big Data / Analytics Computing	No	No	No

Conclusions