

Digital Transformation And Enterprise Architecture

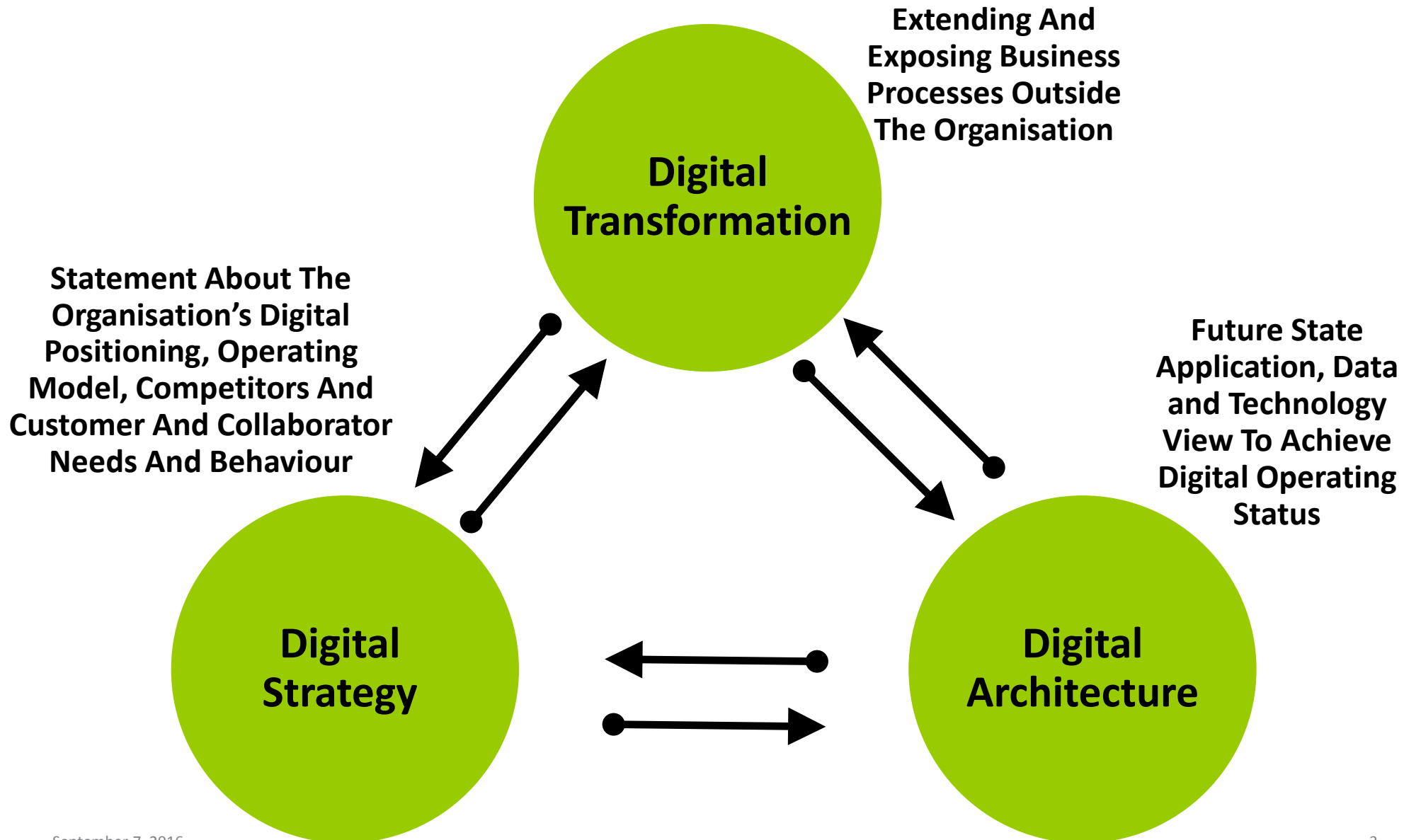
Alan McSweeney

<http://ie.linkedin.com/in/alanmcsweeney>

Digital Strategy And Digital Transformation

- Digital strategy is a statement about the organisation's digital positioning, operating model, competitors and customer and collaborator needs and behaviour to achieve a direction for innovation, communication, transaction and promotion
- Digital transformation is concerned with moving the organisation from its current state to one that involves extending and exposing business processes outside the organisation along the dimensions of:
 - ***External Parties Participating in Digital Interaction/Collaboration*** – who of the many parties in your organisation landscape do you interact with digitally
 - ***Numbers and Types of Interactions/ Collaborations and Business Processes Included in Digital Strategy*** – which types of interactions and associated business processes do you digitally implement
 - ***Channels Included in Digital Strategy*** – what digital channels do you interact over

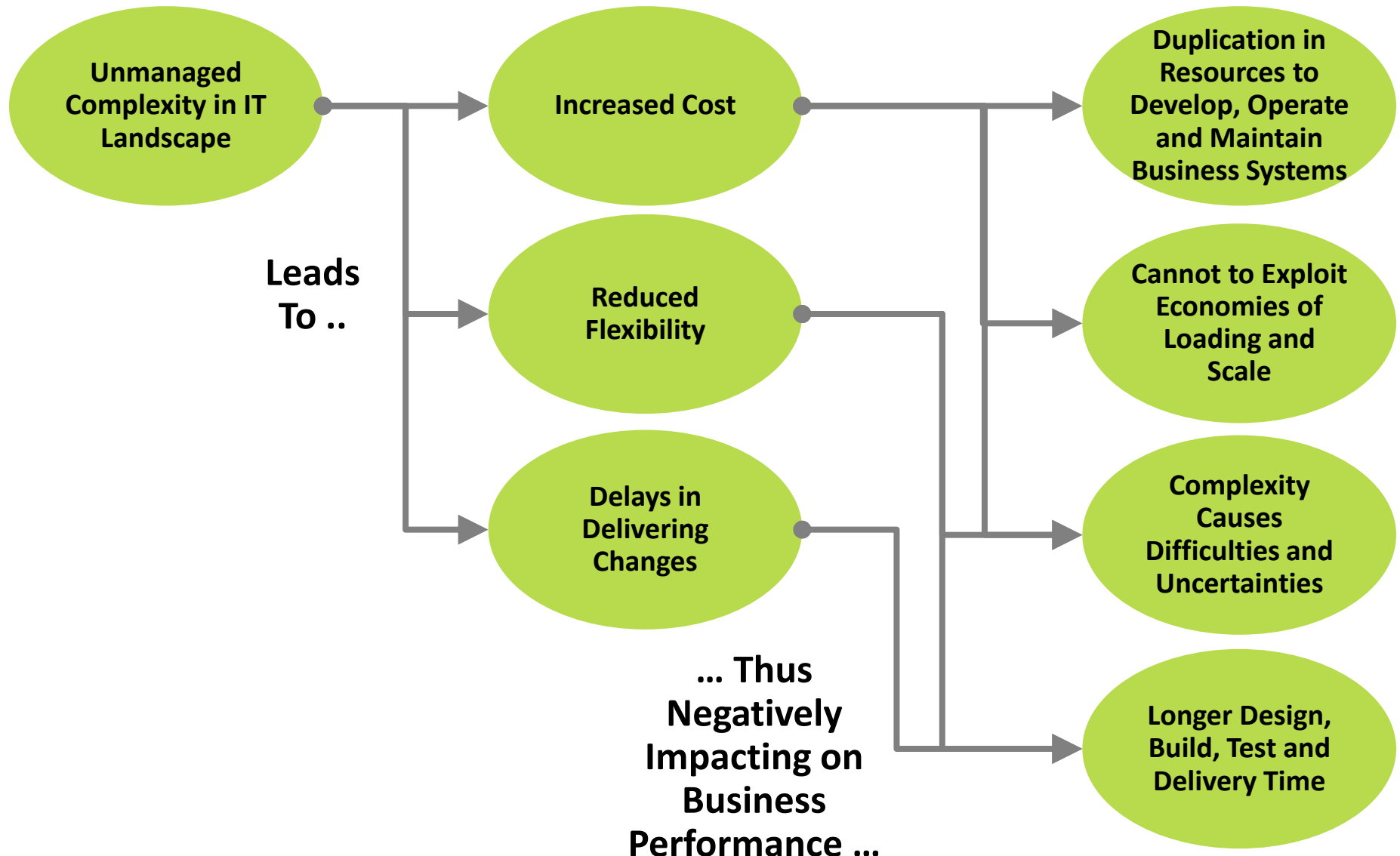
Digital Strategy, Architecture And Transformation



Digital Transformation And Underlying Digital Architecture

- Is all about enabling technology and its successful implementation and operation including:
 - Organisation changes
 - Business process changes
- Digital transformation is (very) complex
- Management must appreciate the technology focus and the benefits of an enterprise architecture approach
- Early involvement of enterprise architecture increases successes and reduces failures
- Management must trust and involve enterprise architecture
- Enterprise architecture function must accept and rise to the challenge and deliver
- Enterprise architecture function must allow its value to be measured

Lack Of An Enterprise Architecture View Leads To Unmanaged IT Complexity



Why Enterprise Architecture?

... To Address This Complexity ...

Provides a Set of Tools and Methods

Provides...

Enterprise Architecture

But

Need to Measure Effectiveness of Enterprise Architecture In Order to Maximise Business Value

Unmanaged Complexity in IT Landscape

Increased Cost

Reduced Flexibility

Delays in Delivering Changes

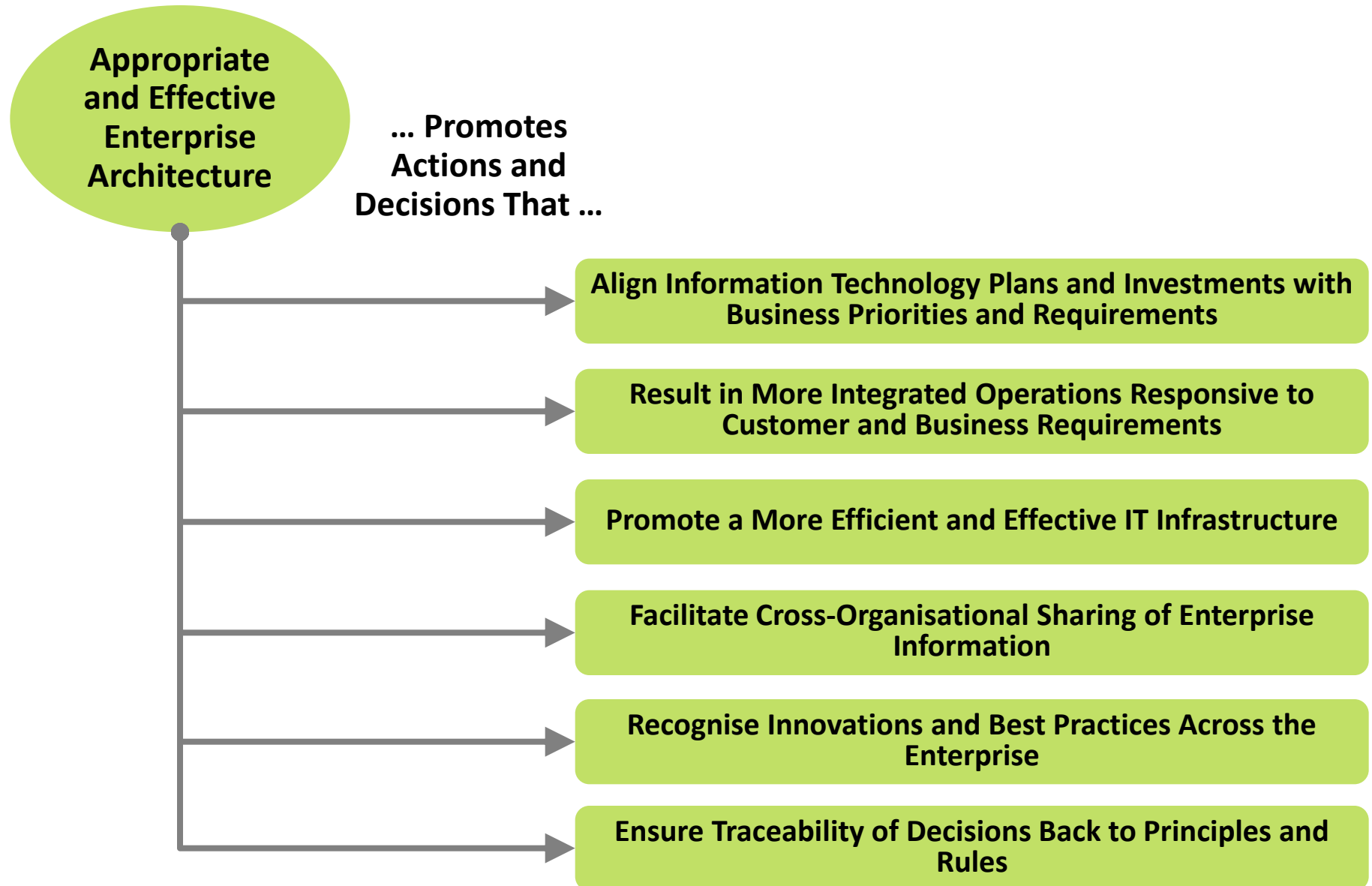
Duplication in Resources to Develop, Operate and Maintain Business Systems

Cannot to Exploit Economies of Loading and Scale

Complexity Causes Difficulties and Uncertainties

Longer Design, Build, Test and Delivery Time

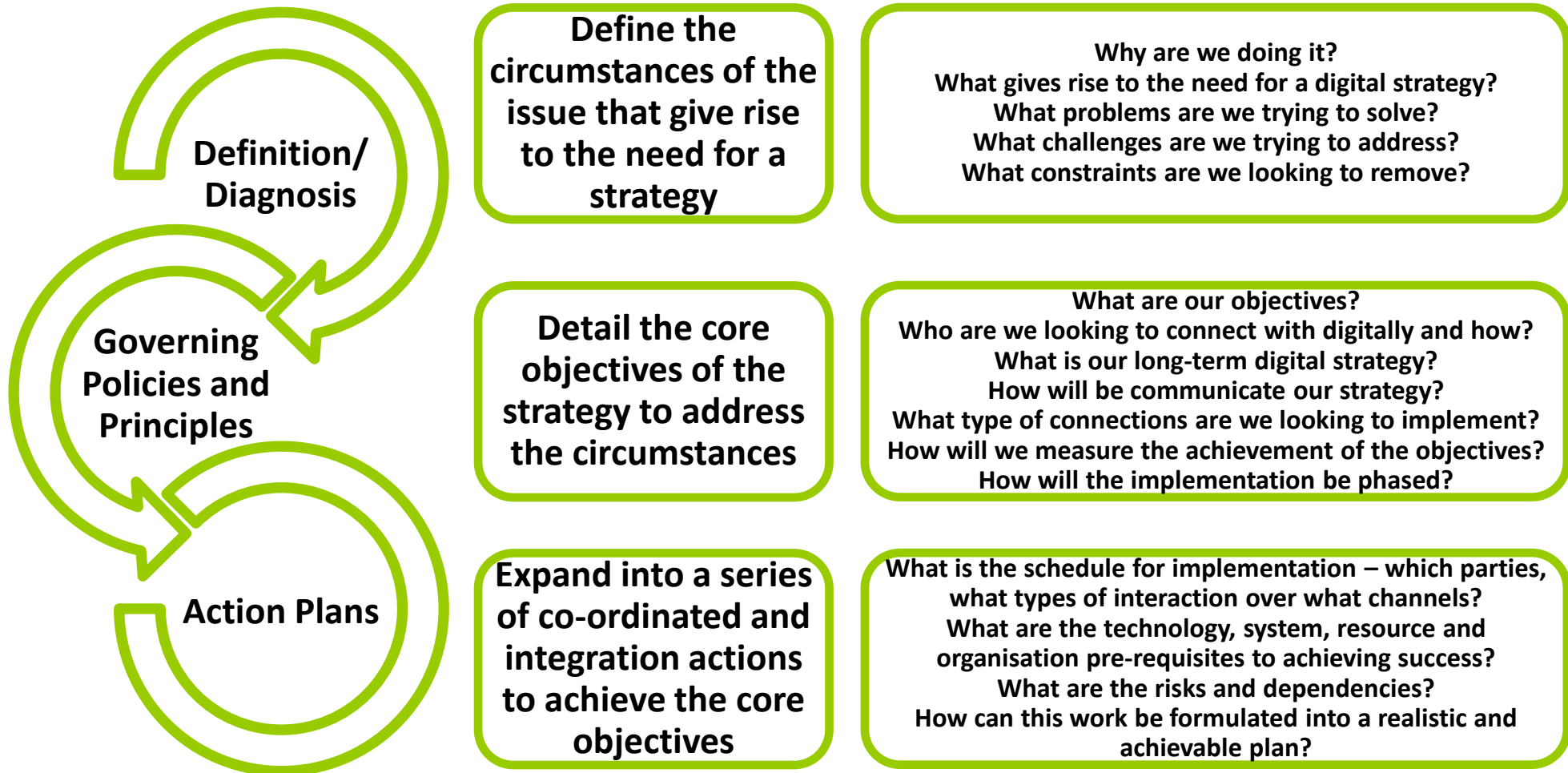
Value of Enterprise Architecture



Enterprise Architecture And Digital Transformation

- Enterprise architecture provides the tools and the approaches to manage the complexity of digital transformation

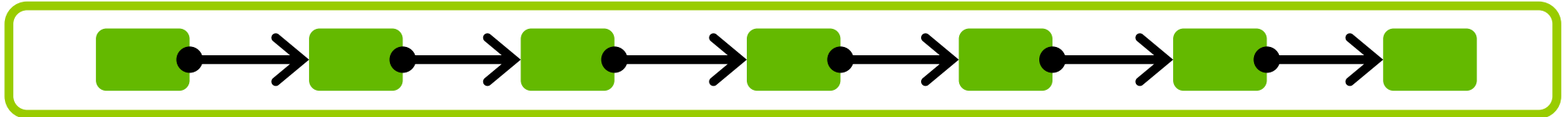
General Aspects Of A Digital Strategy



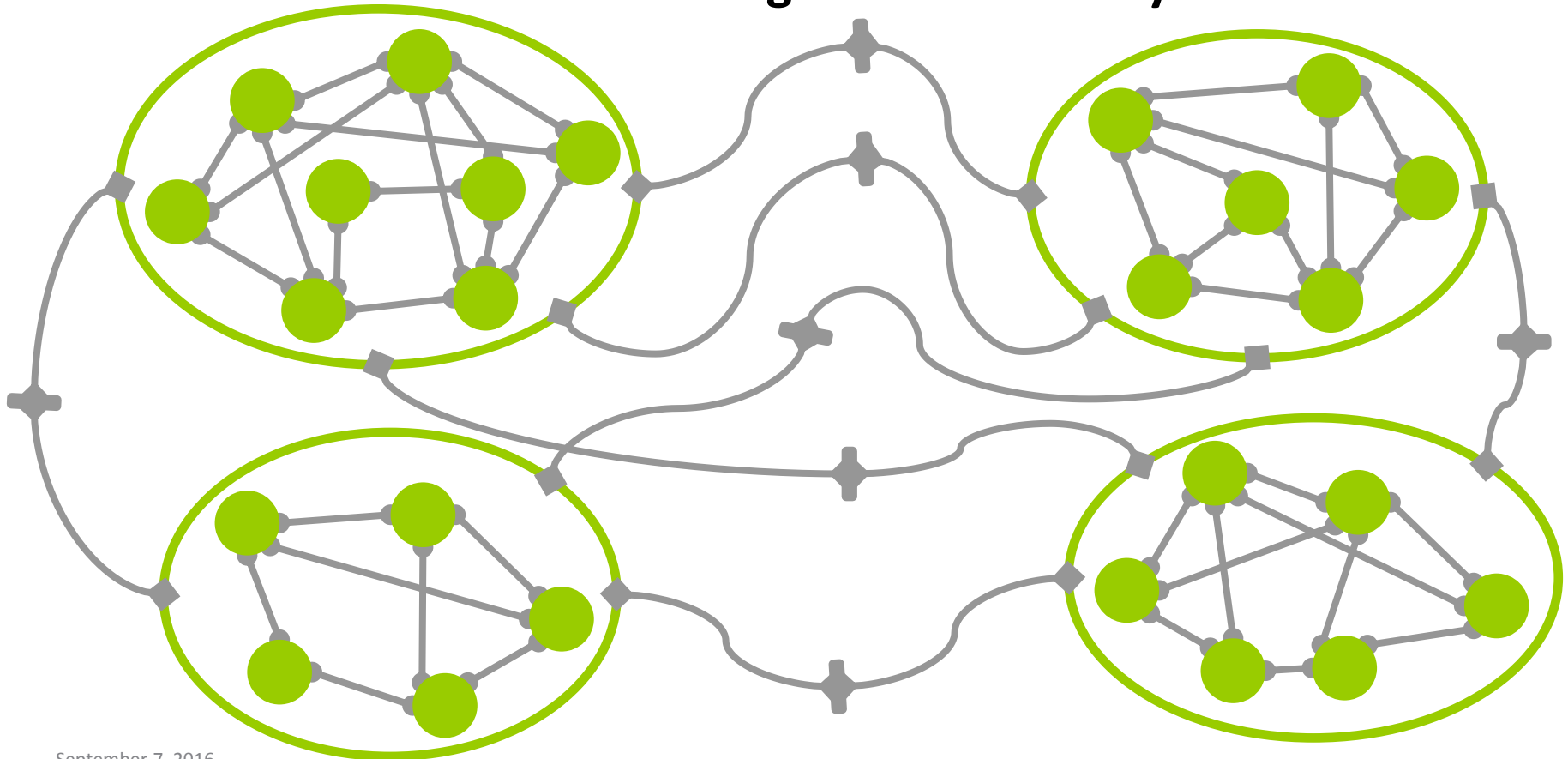
What Success Looks Like And How You Intend To Achieve It

External Interactions And Internal Organisation Reality

External Organisation Interactions

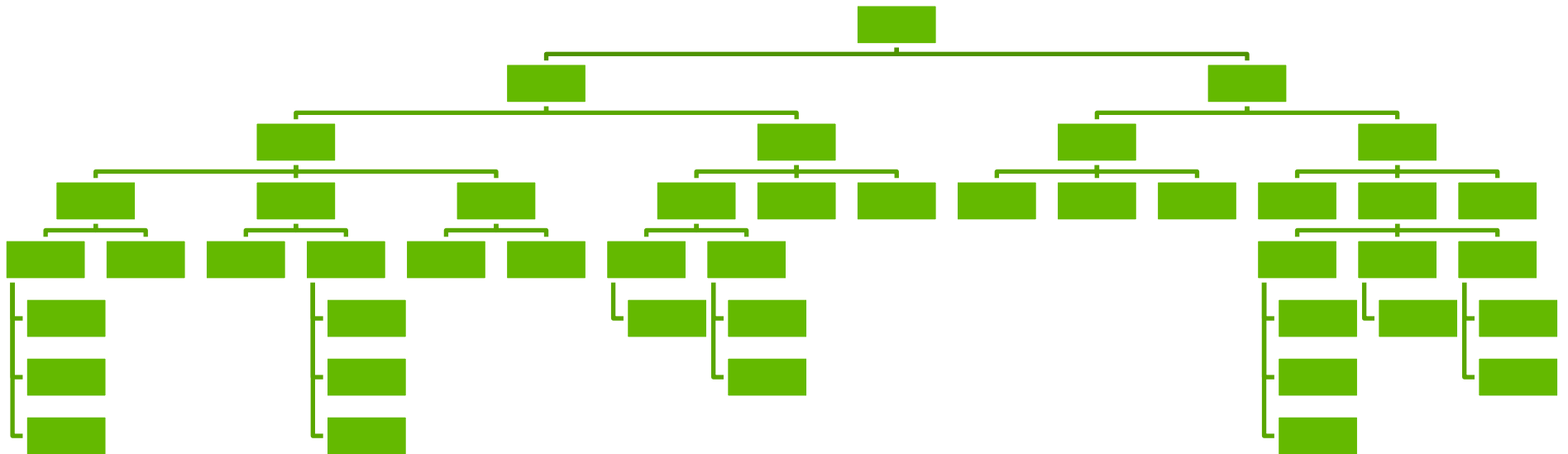


Internal Organisation Reality



Digital Transformation Is About ...

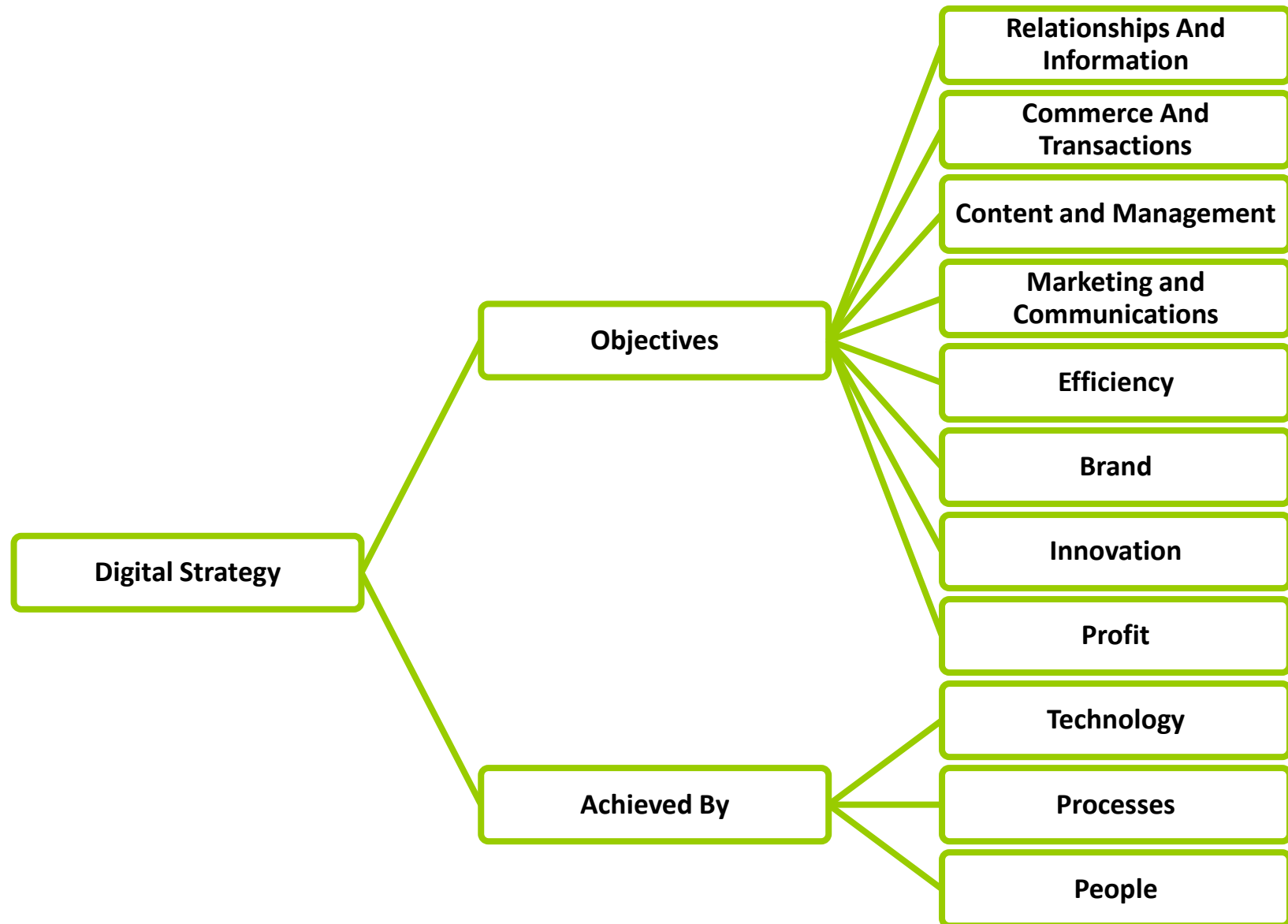
Moving the organisation from one that is internally focussed around its siloed structures:



To one that is focussed on customer (external party) straight-through interactions:



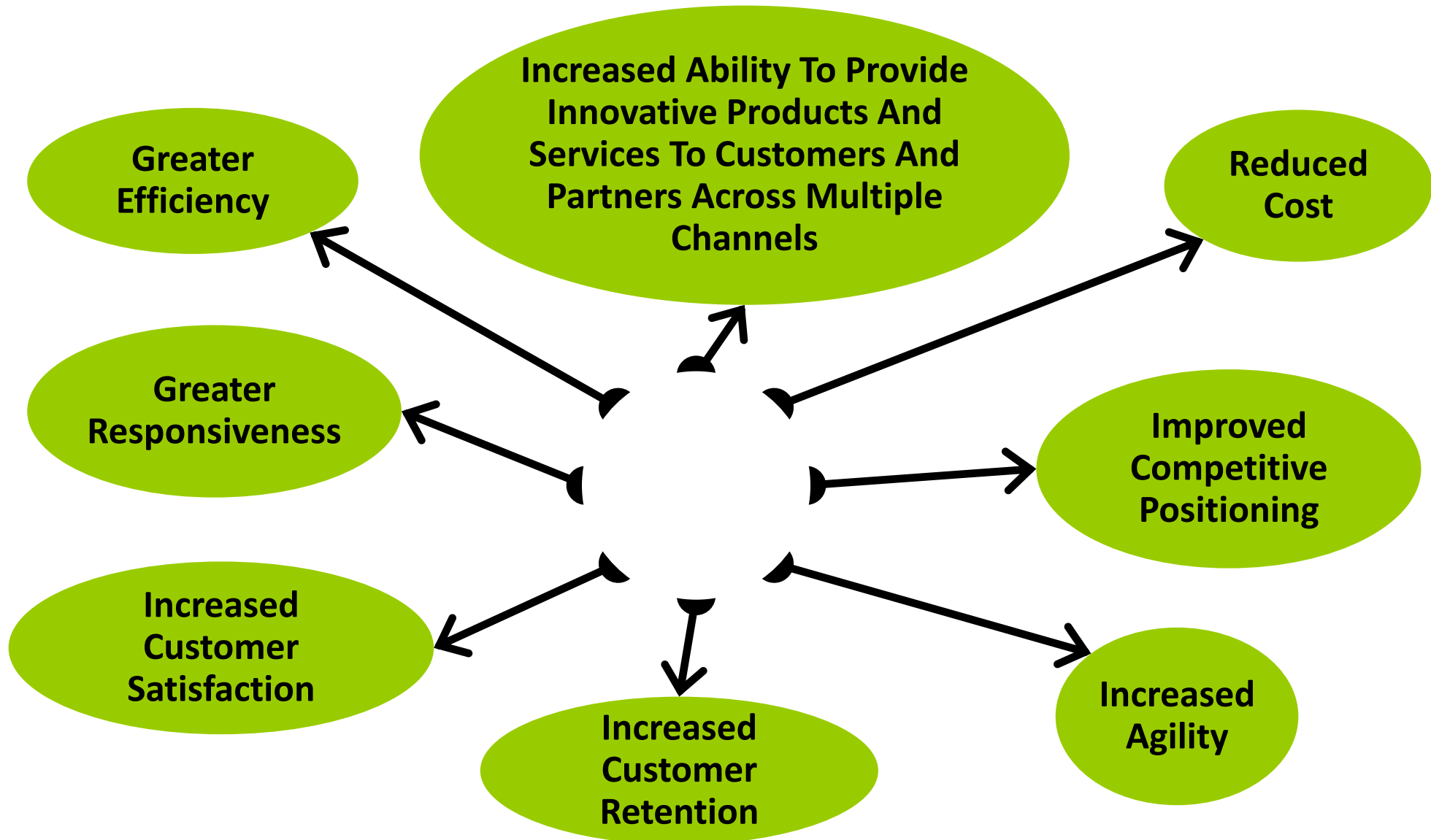
Objectives Of Digital Strategy



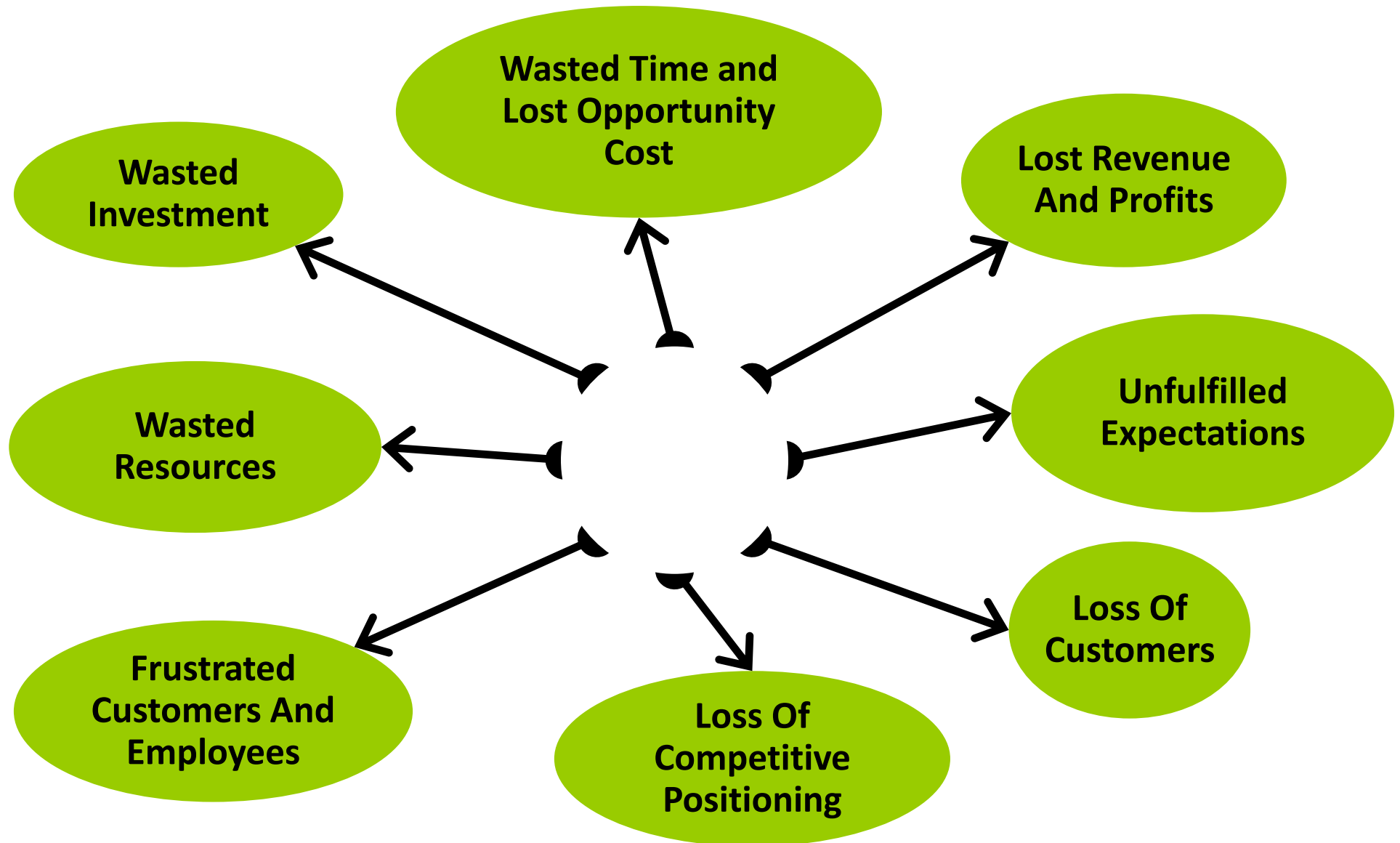
Objectives Of Digital Strategy

- The objectives of a digital strategy are:
 - **Relationships And Information** – manage and maintain relationships with existing external parties, provide external parties access to information on accounts and transactions including analysis and reporting, provide personalised experience, have a consistent message across all channels
 - **Commerce And Transactions** – enable external parties transact online – pay bills, order and buy products and services in new ways
 - **Content and Management** – provide external parties with current, relevant, quality, meaningful content with easy access to maintain external party conversation
 - **Marketing and Communications** – provide external parties with personalised and customised information and offers on new products and services based on an intelligent analysis of their likelihood to avail of the offer
 - **Efficiency** – make existing business processes more efficient, remove siloed operation, implement cross-functional/cross-capability processes that mirror external party interactions and transactions
 - **Brand** – articulate the organisation brand more effectively
 - **Innovation** – make products and services better, develop new products and services
 - **Profit** – make more money and/or reduce cost
- These objectives and outcomes of a digital strategy are actualised by technology, processes and people

Getting Digital Transformation Right Means ...



Getting Digital Transformation Wrong Means ...



Digital Enablement Technology Iceberg

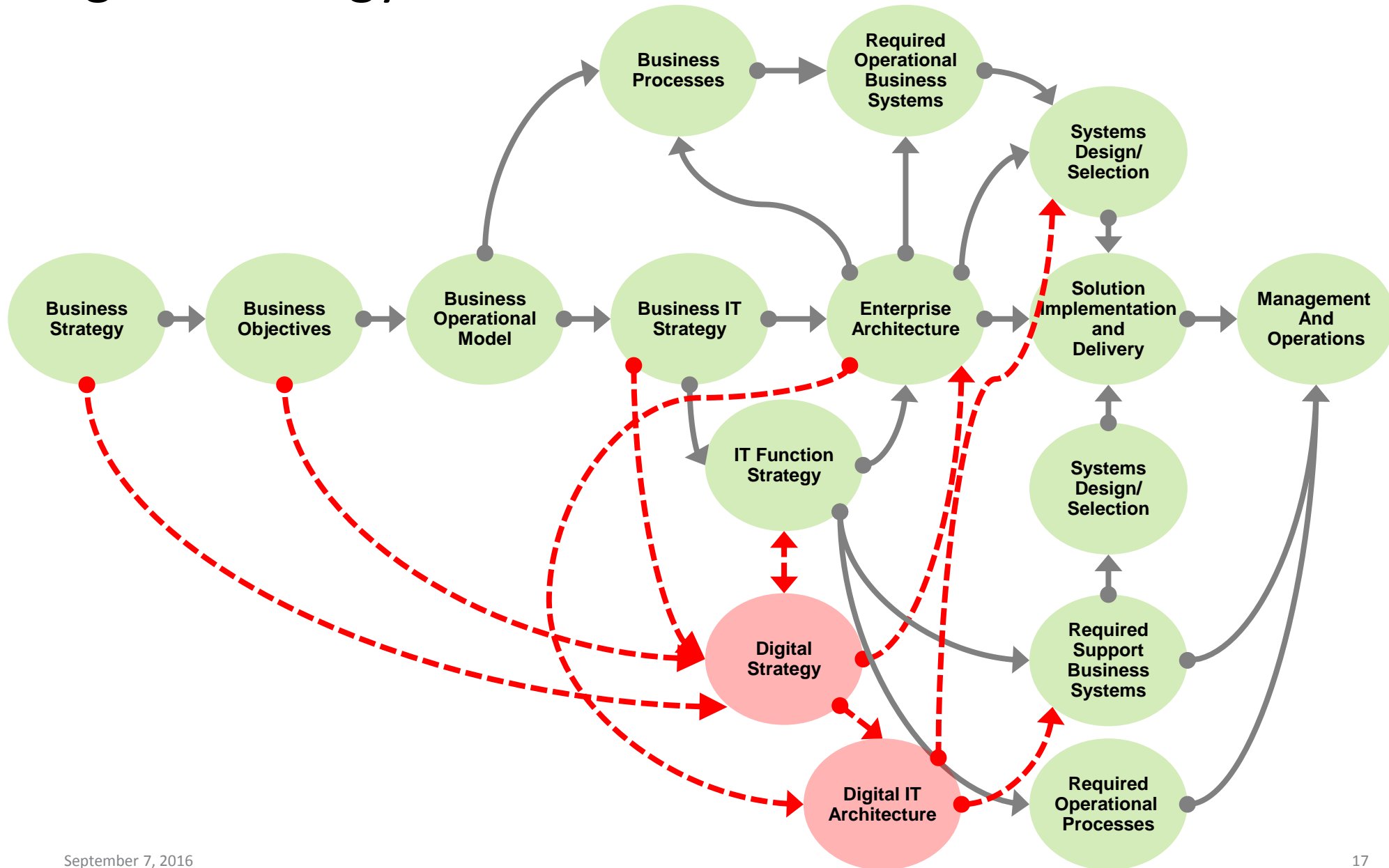
**In Order to Extend and Expose
Capabilities and Business
Processes Outside the
Organisation ...**



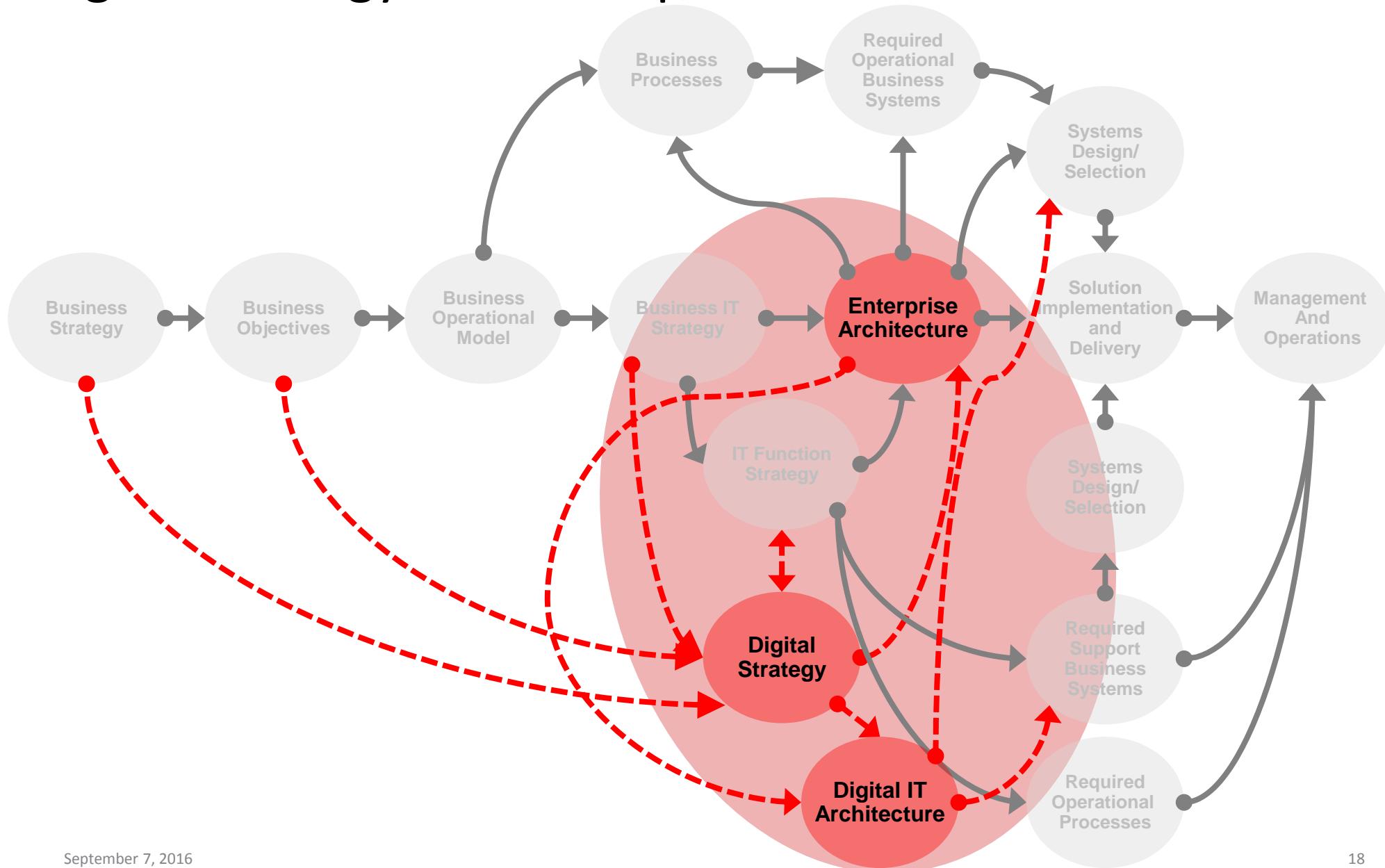
**... You Will Need a Substantial Amount
of Enabling Technology, Systems,
Resources and Supporting Processes
and Organisation Change**

**Successful Digital Operations Require
Investment and Commitment**

Digital Strategy In Business And IT Context



Digital Strategy And Enterprise Architecture



Key Digital Design And Operating Principles

- Flexible and adaptable for addition of new features quickly
- Short development cycle for new features
- Ease of static content generation and maintenance with federated and devolved approach - COPE (Create Once and Publish Everywhere)
- Focus on content and value-added information and function for positive customer experience – content and usefulness drives usage
- All information available online
- All transactions available online
- Flexible and adaptable for addition of new features quickly
- Short development cycle for new features
- Measure everything
- Integrated messaging across all channels
- Recognise the offline customers
- ***Digital is not a project – it is an ongoing organisation-wide activity***
- ***Digital is not easy – it is hard***

Creating A Digital Implementation Statement Of Direction

- Creating a well-defined statement of direction for a digital investment involves:
 - Defining vision and guiding values for digital exploitation
 - Define a business strategy that incorporates the use of digital to achieve business results
 - Defining a digital functionality roadmap/high-level schedule
 - Describing a digital reference architecture
 - Assessing organisation readiness for digital
 - Identifying the skills gaps that need to be filled
 - Managing internal and external expectations
 - Producing a business case that draws this information together with identified and quantified benefits

Digital Functionality Delivery Roadmap

- Defines, prioritises and creates an integrated schedule for the delivery of digital functions and related required enabling technologies for a agreed time frame
 - Need to agree the prioritisation process
 - Roadmap is always subject to constraints such as budget, resources
 - Dependencies can be identified and tracked
 - Capability roadmap can be grouped by business area or process group, external party or channel

Digital Transformation Is Underpinned By Information Technology Changes

- The implementation of digital transformation involves
 - Implementing new systems and technologies
 - Building connections to existing applications
 - **IT is fundamental to successful digital transformation**
- Complexity increases
- Need to avoid unmanaged complexity
- Unmanaged complexity in IT landscape leads to greater cost and less flexibility
 - Issues include lack of standards, redundant applications, multiple platforms, and inconsistent data
 - Hinders the organisation's ability to respond to business and economic changes
 - Enterprise architecture defines a set of tools and methods to address this complexity
- Taking an Enterprise Architecture approach is a means of addressing these issues systematically
 - Reduces the complexity associated with digital transformation
 - Ensures work occurs in the context of a target architecture

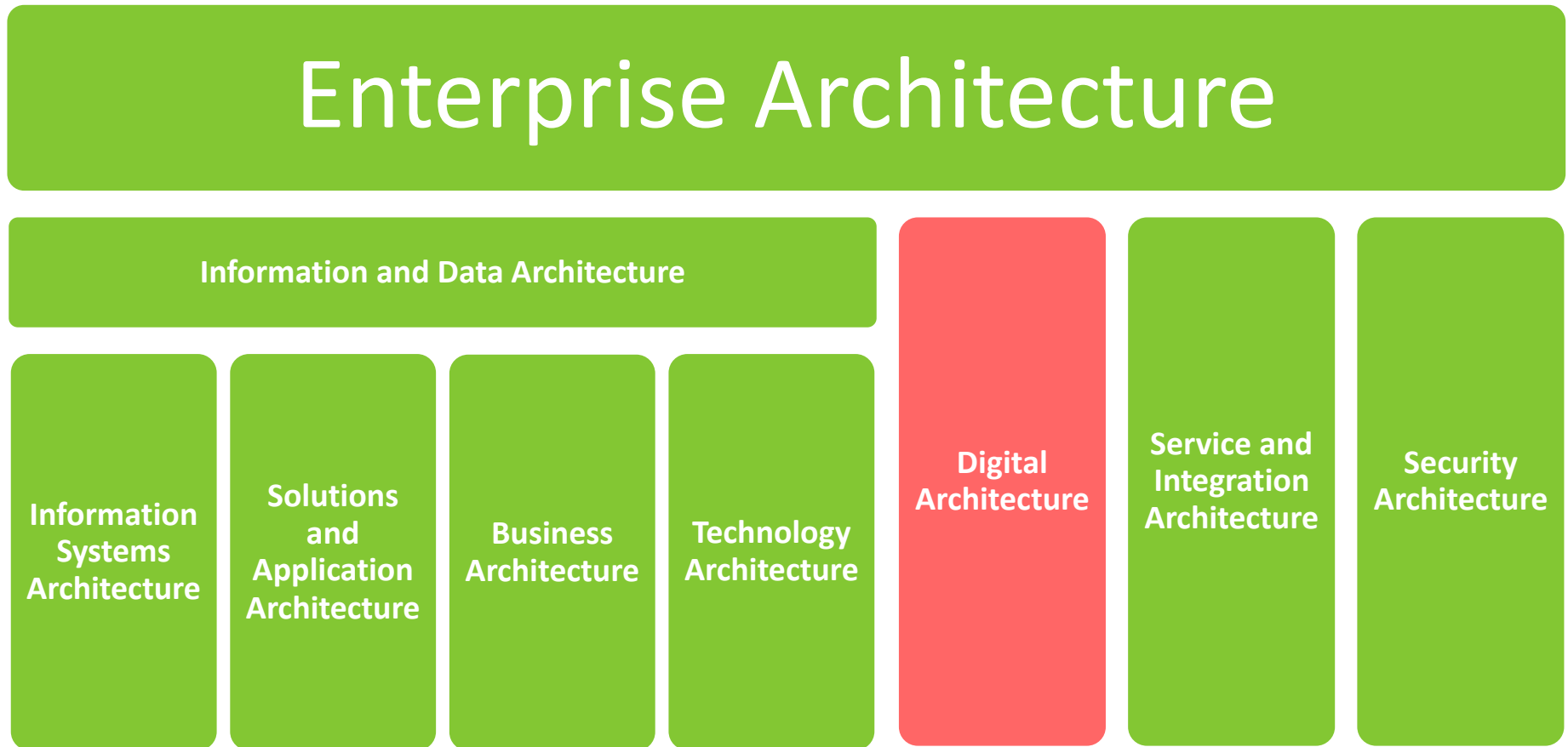
Digital Transformation

- Involves even greater short-term complexity as:
 - New and old systems must co-exist
 - Digital projects are implemented
 - Pilot systems are applied in business functions and units
 - There are organisation and process changes
 - Applications are reworked

Digital Transformation And Enterprise Architecture

- The management function that drives digital transformation needs to involve the enterprise architecture function in the design and implementation of digital strategy and organisation, process and policies and the creation of a digital architecture

Digital Architecture In Context

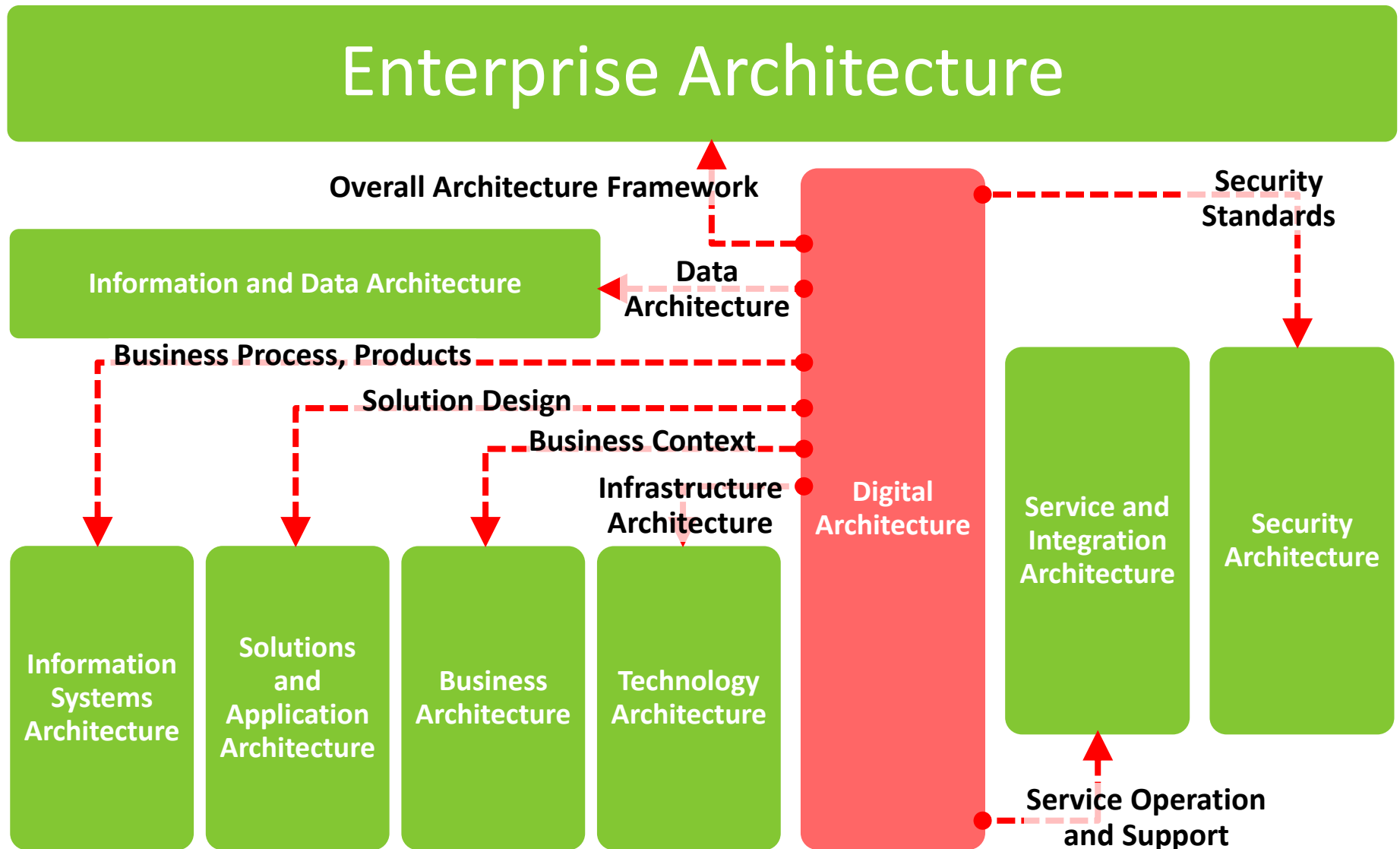


- Enterprise Architecture needs to be involved in the development of digital architecture
- Digital architecture needs to be at the core of the organisation's wider Enterprise Architecture

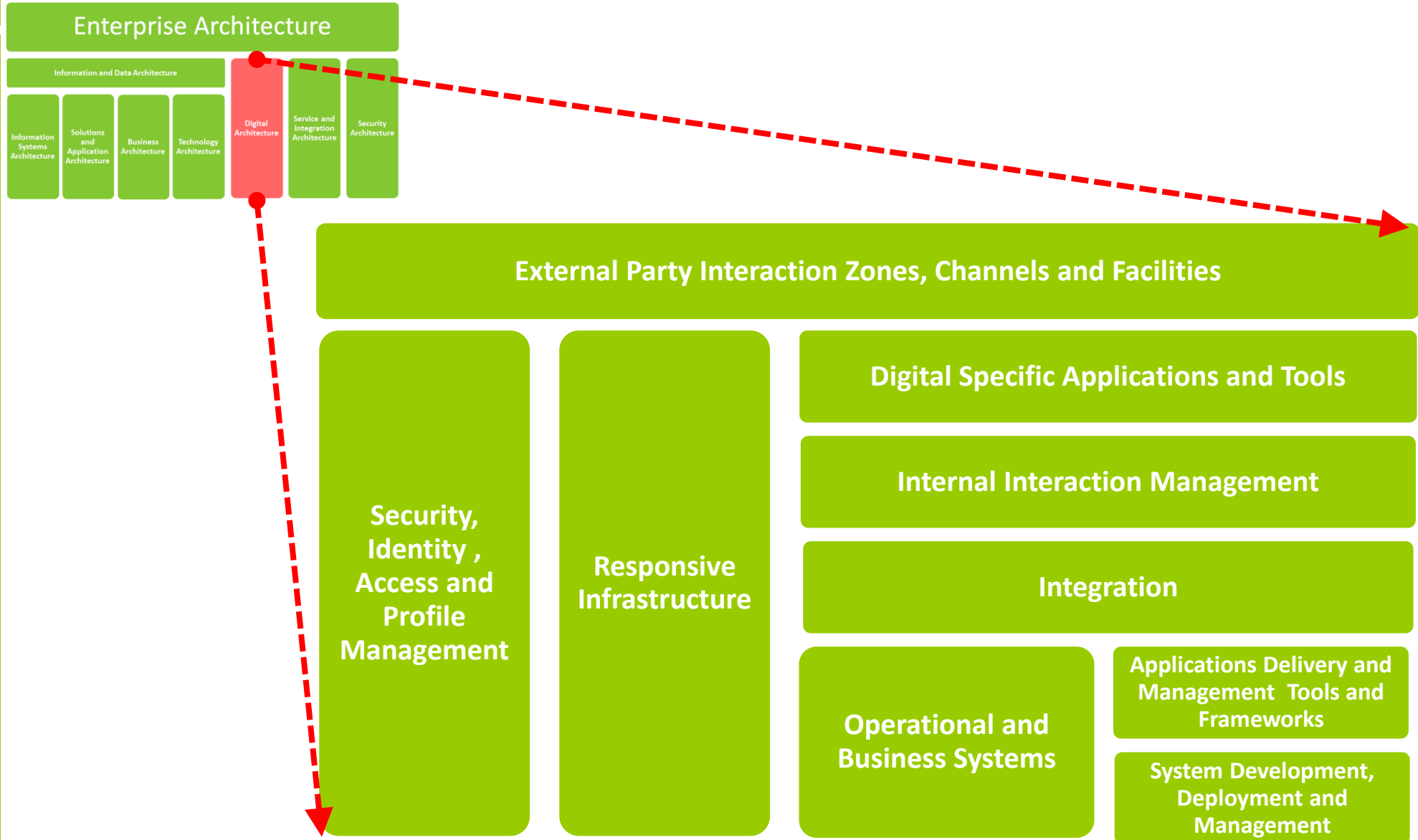
Digital Architecture In Context

- Digital architecture does not exist in isolation entirely separate from an organisation's overall enterprise architecture
- Digital architecture must exist within the wider enterprise architecture context
- Digital architecture links to other architectural components within the IT function and the overall organisation

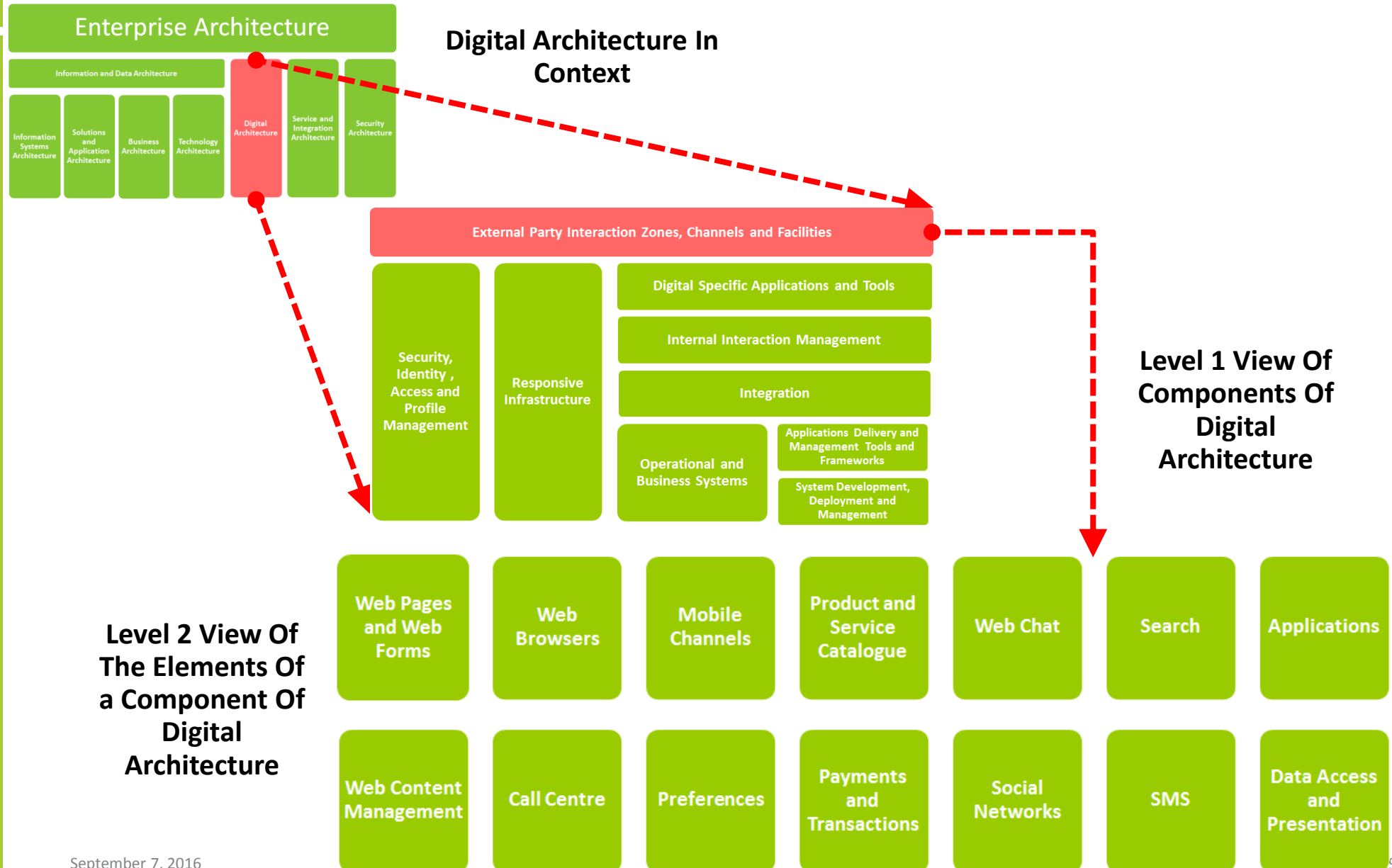
Digital Architecture In Context – Linkages



Digital Reference Architecture



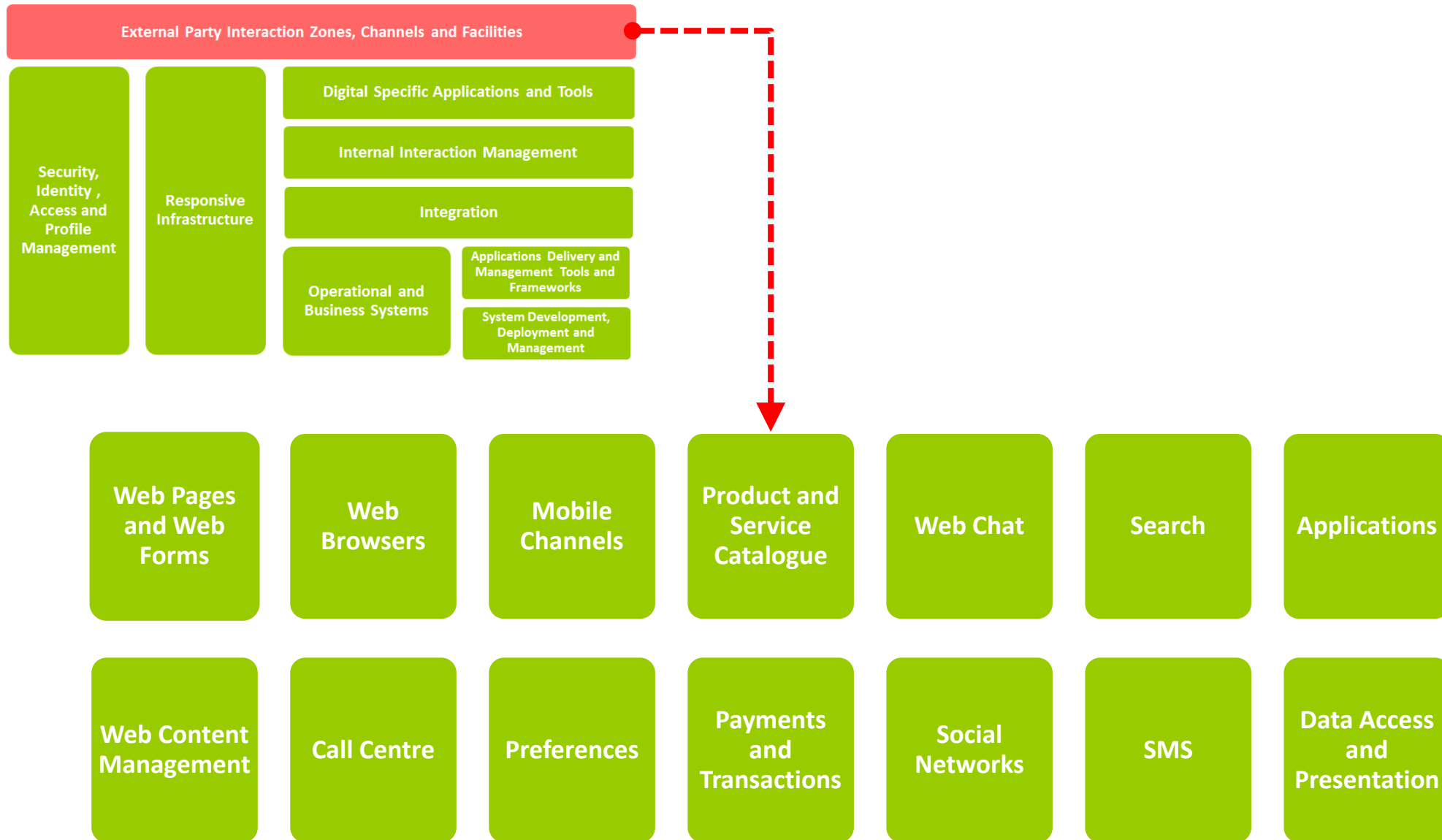
Digital Reference Architecture – Multiple Layers



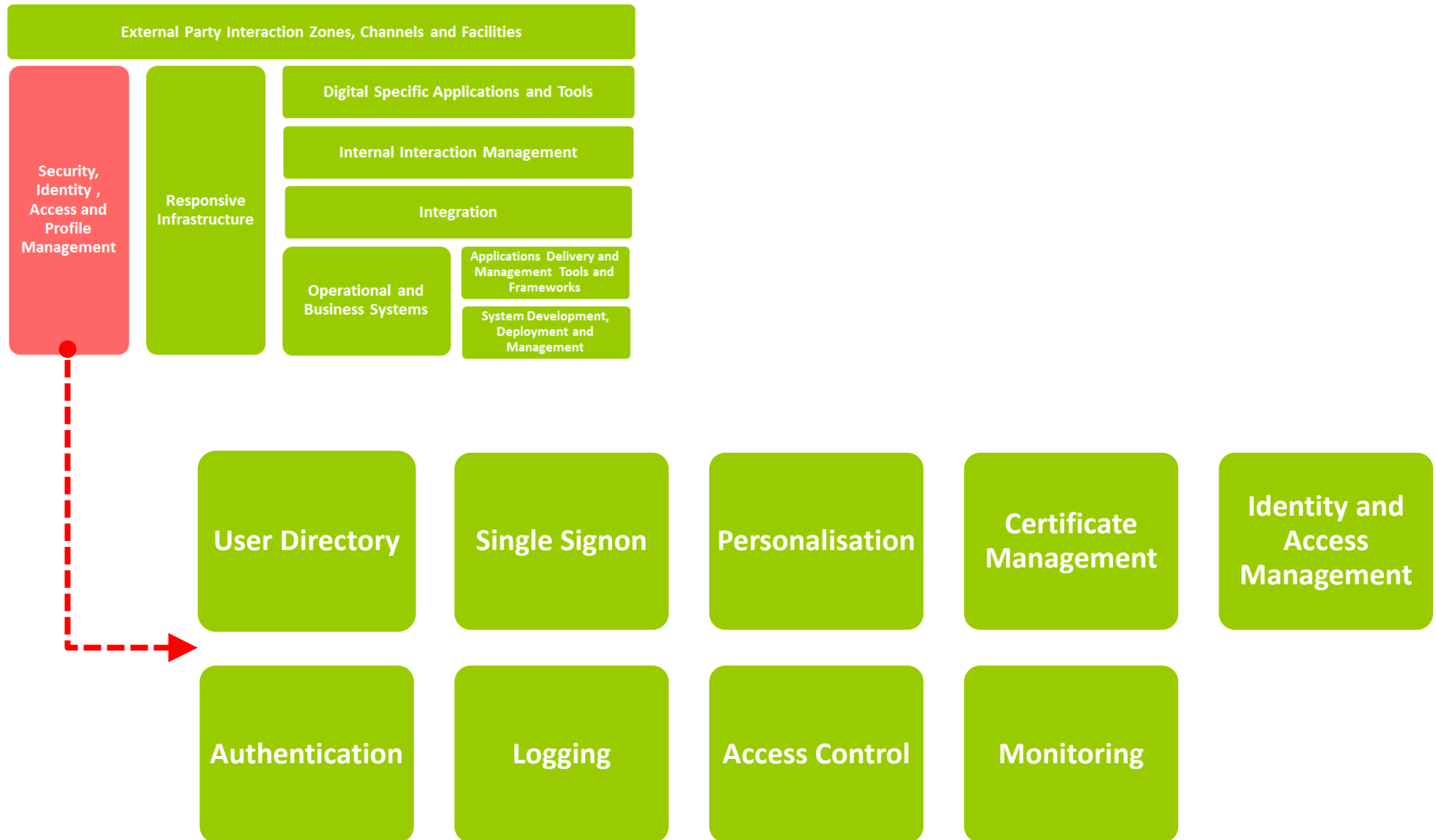
Digital Reference Architecture – Components

- **External Party Interaction Zones, Channels and Facilities** – the set of facilities and applications that are presented to those external parties being interacted with and the channels used
- **Security, Identity , Access and Profile Management** – internal and external security tools and processes
- **Responsive Infrastructure** – digital application deployment and operating infrastructure
- **Digital Specific Applications and Tools** – the portfolio of specific tools acquired to deliver and operate digital functions
- **Internal Interaction Management** – the set of internal applications that are used to manage external party interactions
- **Integration** – the data, service and process integration layer and associated APIs
- **Applications Delivery and Management Tools and Frameworks** – set of tools used to deliver and manage digital applications
- **System Development, Deployment and Management** – the digital application development facility within the organisation
- **Operational and Business Systems** – the existing organisation operational and business systems

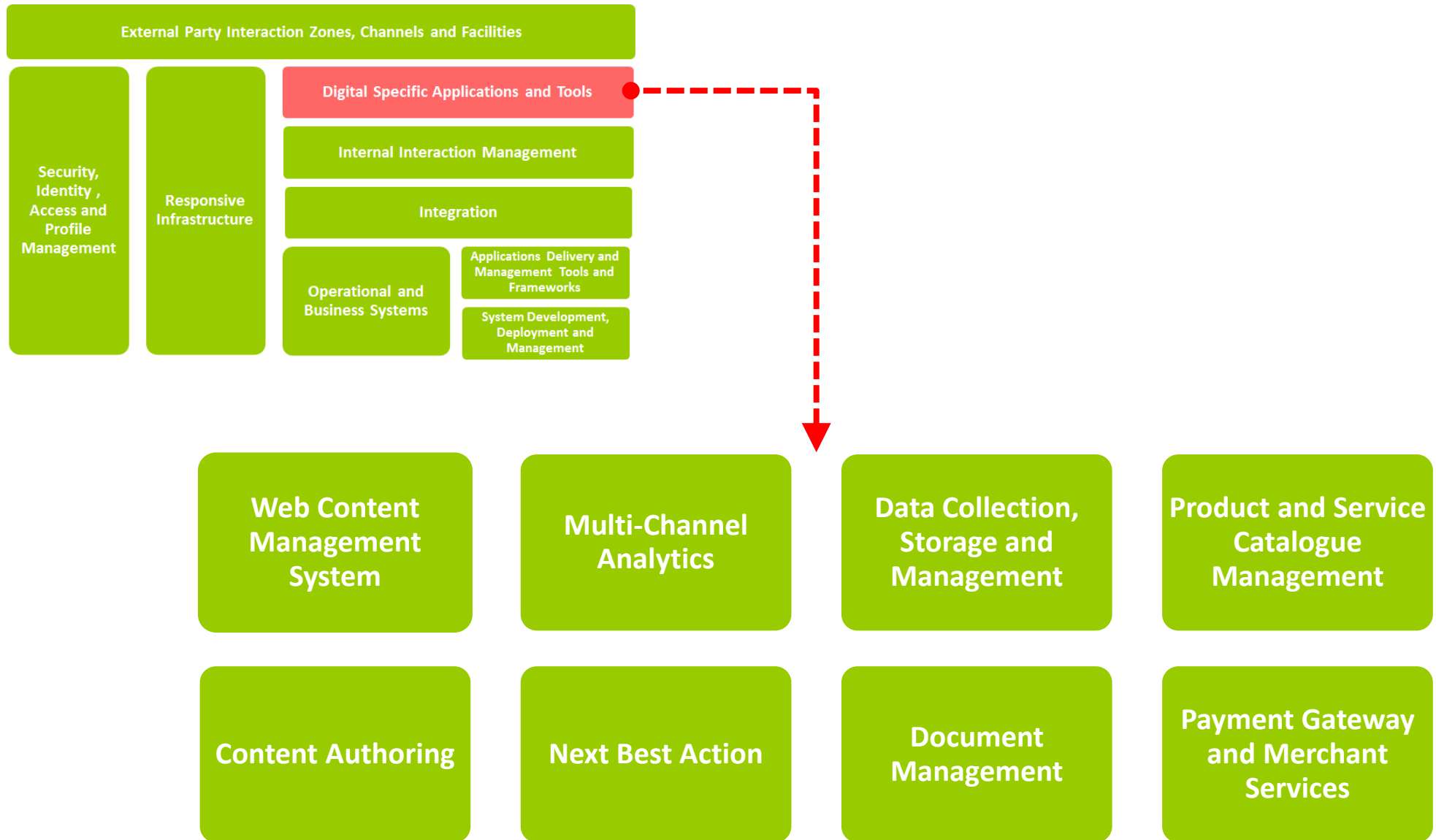
External Party Interaction Zones, Channels and Facilities – Level 2 Elements



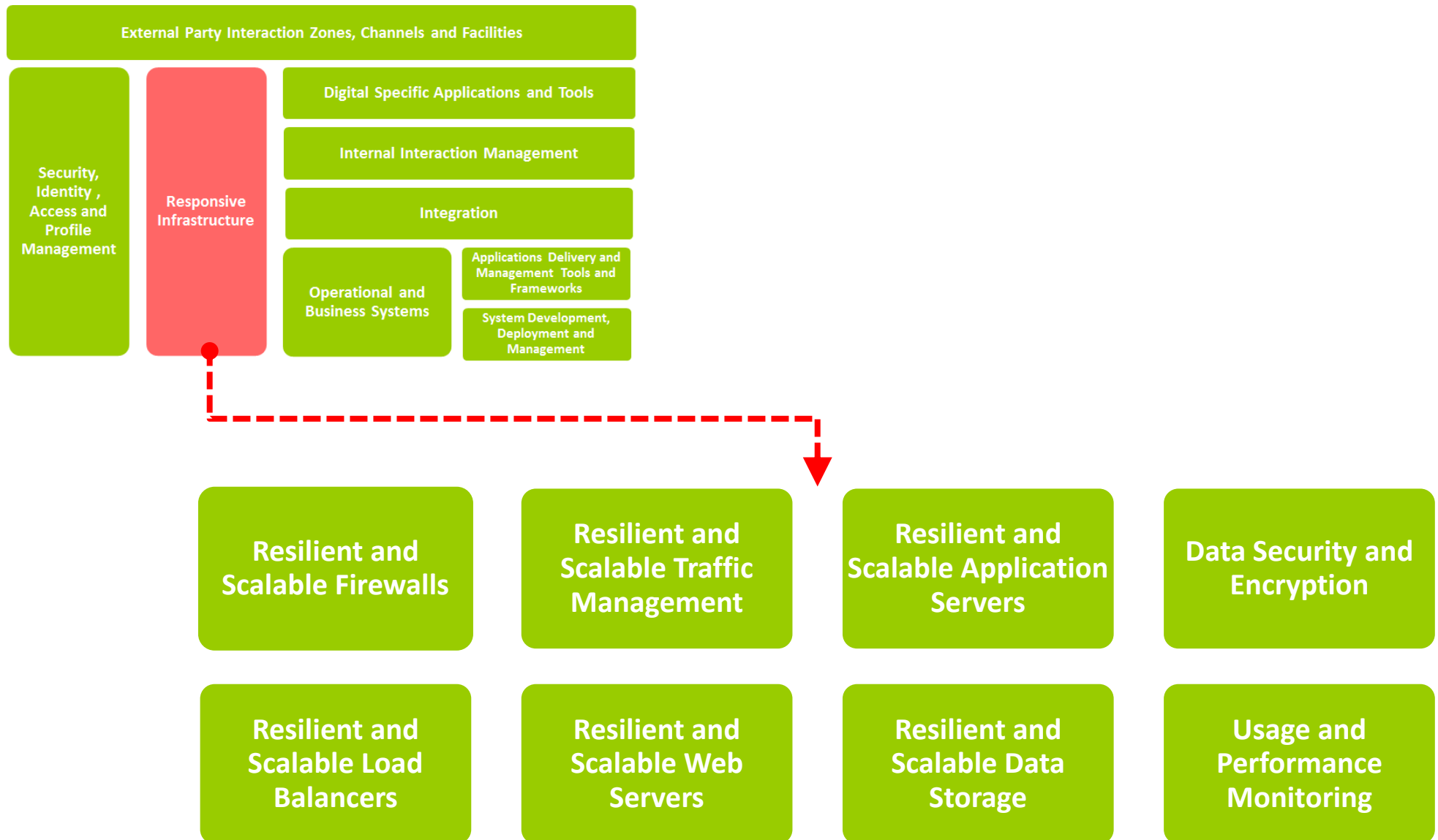
Security, Identity , Access and Profile Management – Level 2 Elements



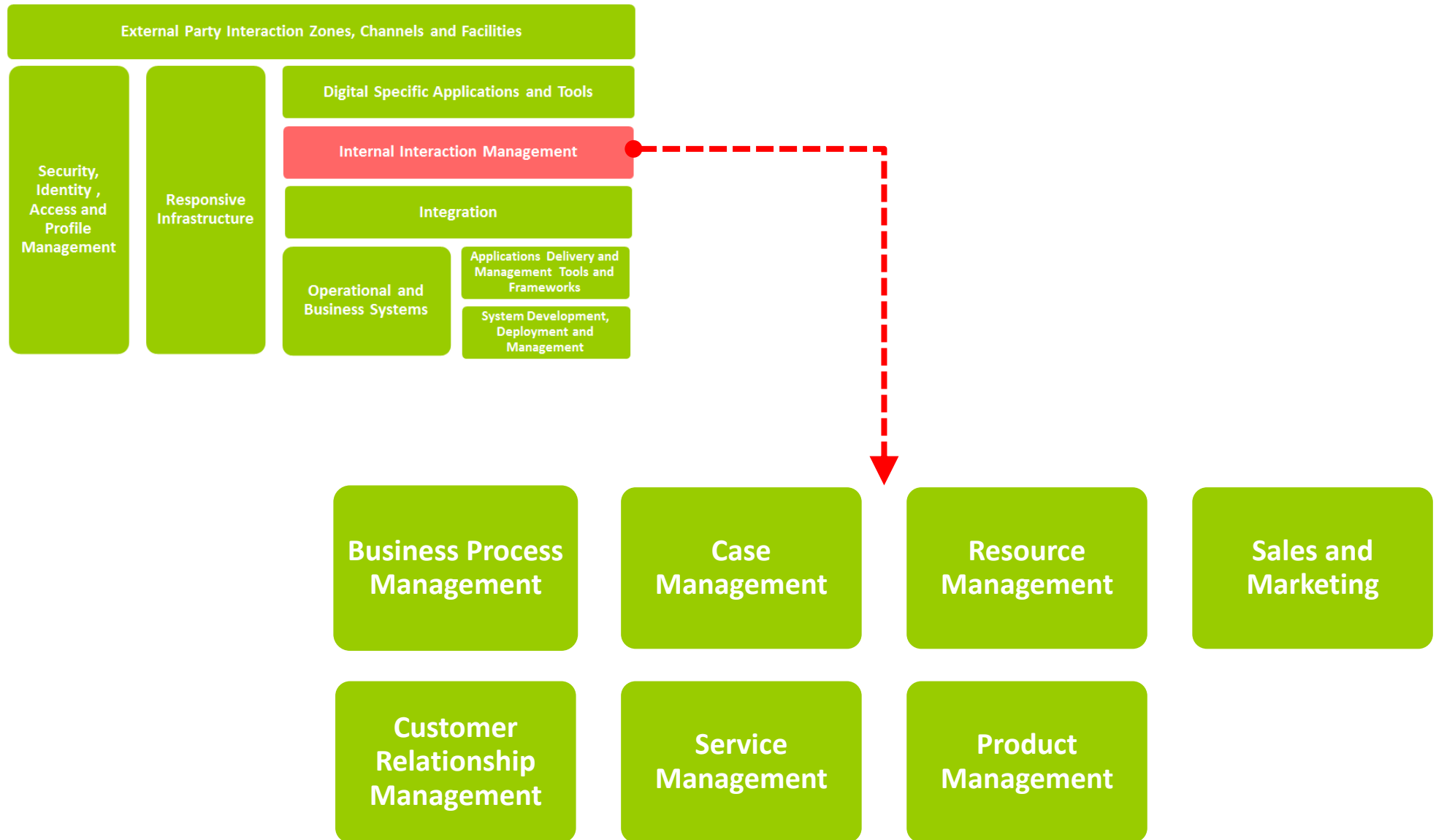
Digital Specific Applications and Tools – Level 2 Elements



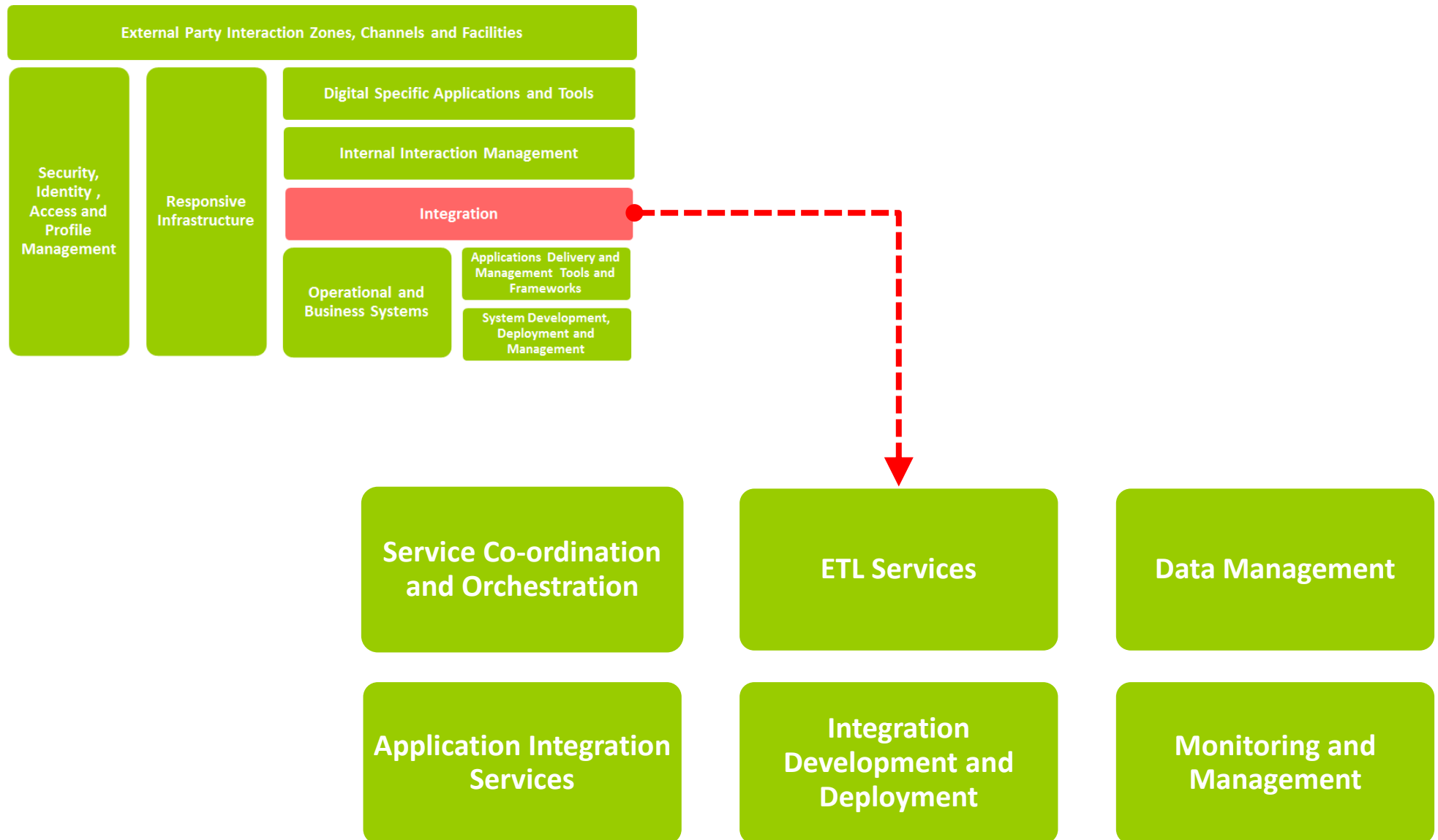
Responsive Infrastructure – Level 2 Elements



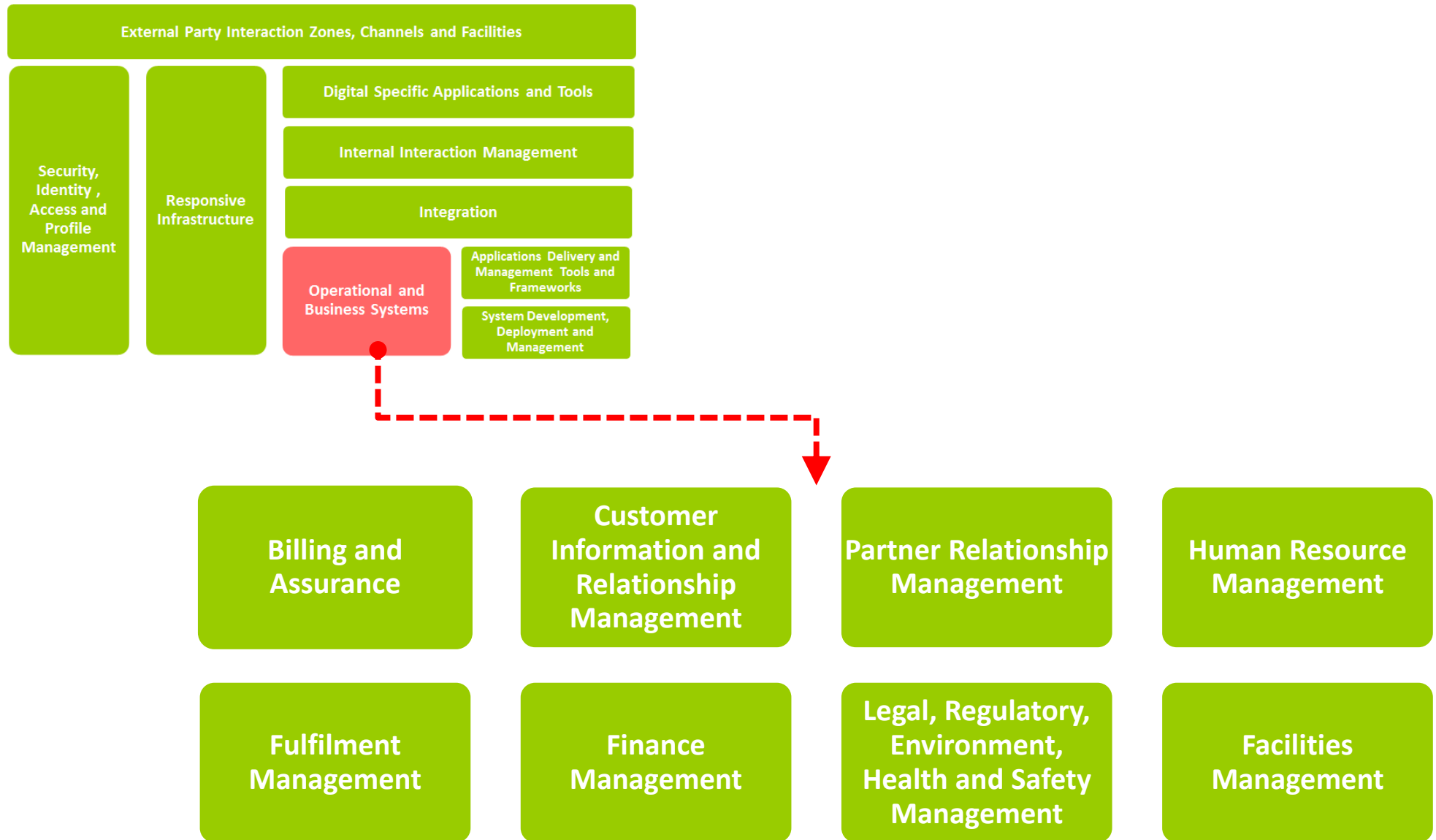
Internal Interaction Management – Level 2 Elements



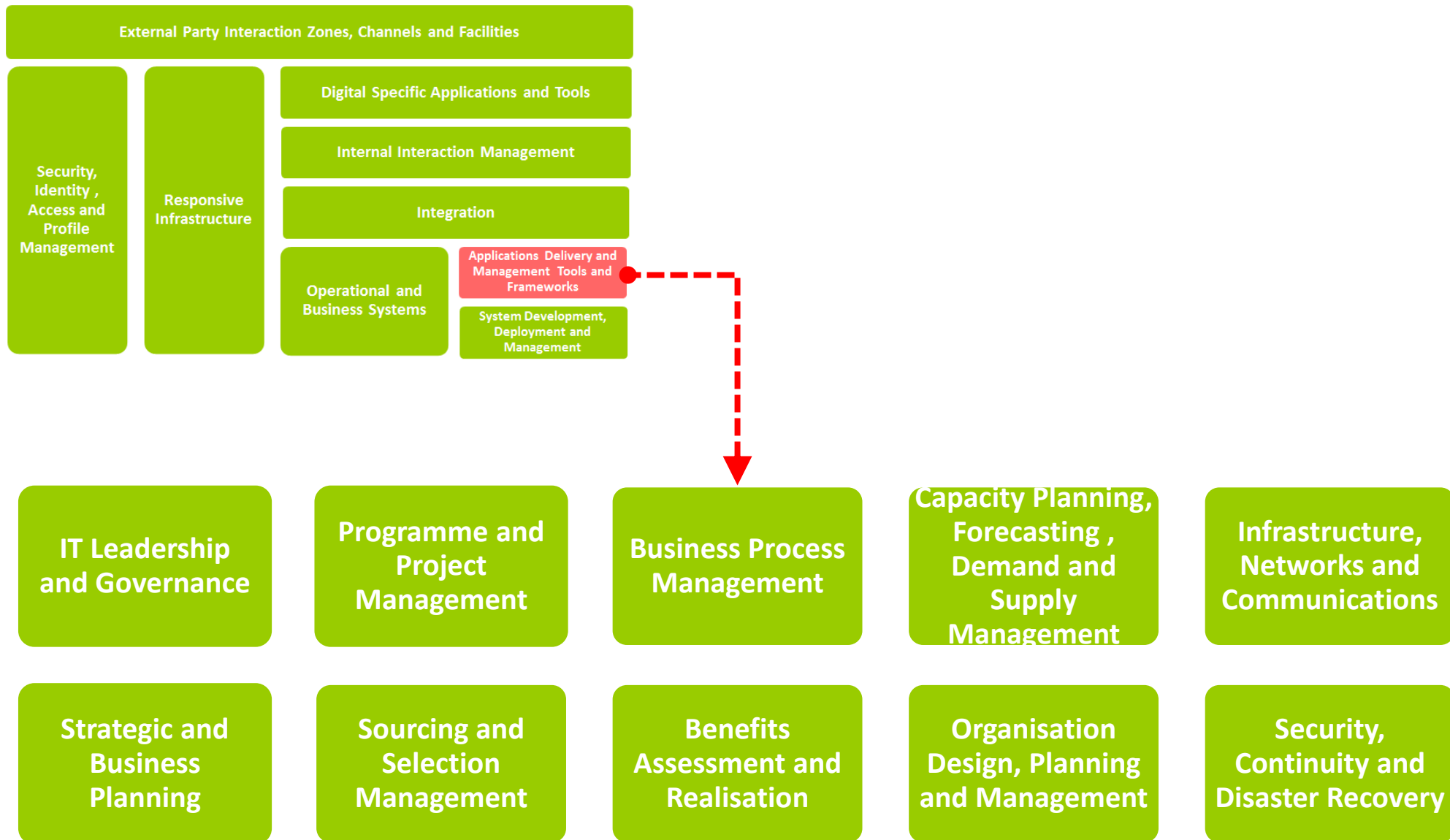
Integration – Level 2 Elements



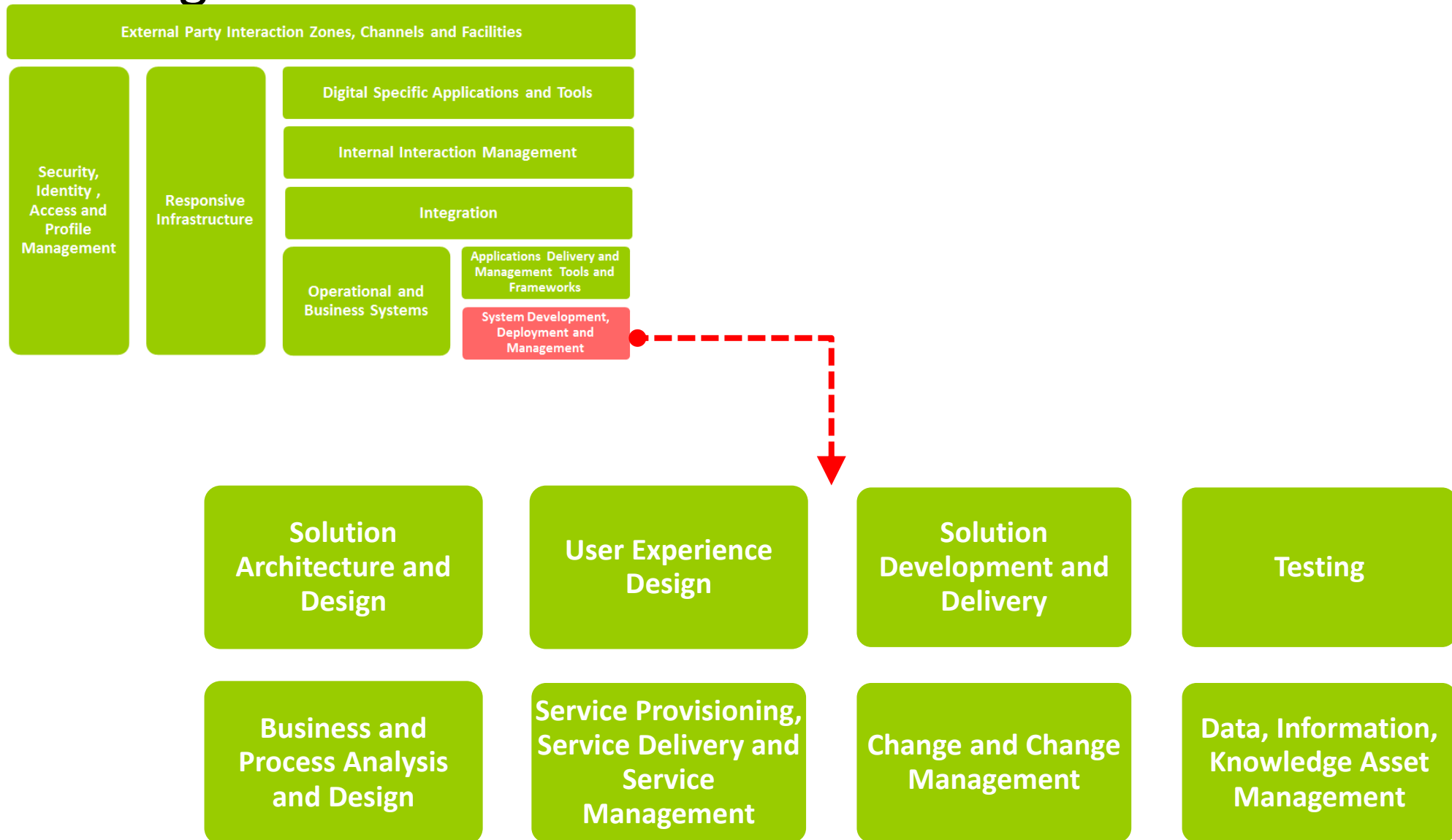
Operational and Business Systems – Level 2 Elements



Applications Delivery and Management Tools and Frameworks – Level 2 Elements



System Development, Deployment And Management – Level 2 Elements



Digital Reference Architecture

- The objectives of a digital (or any reference) architecture are:
 - Consistent, personalised and rich user experience across all channels
 - Reliable and resilience operation
 - Ease of management and administration
 - Integration of data and services from multiple sources
 - Ease of development and deployment of new services
 - Collection of usage information for analysis
- This means:
 - Federated operation with support of multiple services
 - Ability to unify services for delivery
 - Standard and powerful approach to integration
 - Management and administration tools

Digital Reference Architecture – Service Catalog

- Services here mean functions/offers accessed by external parties
- Consider a facility to author and manage functions/offers and enable access by defined set of external parties
- Link services to xActor data models defined earlier

Digital Reference Architecture In Context

- An enterprise digital strategy exists in a wider organisation and IT context
 - The organisation will have an overall IT strategy to accomplish the organisation strategy and associated objectives
 - The IT function will then need its own internal IT strategy that will structure the function in order to ensure that it can deliver on the wider organisation strategy
 - The enterprise digital strategy is connected to the overall IT strategy, the enterprise architecture and the internal IT strategy
 - The enterprise digital strategy will be implemented and operated through an digital architecture that is part of the overall enterprise architecture
 - This context is important in ensuring that the enterprise digital strategy fits into the overall IT and wider organisational structure
 - The enterprise digital strategy exists to ultimately deliver a business benefit and contribute to the achievement of the business strategy
 - The strategy must be translated into an operational framework to enable the strategy to be actualised

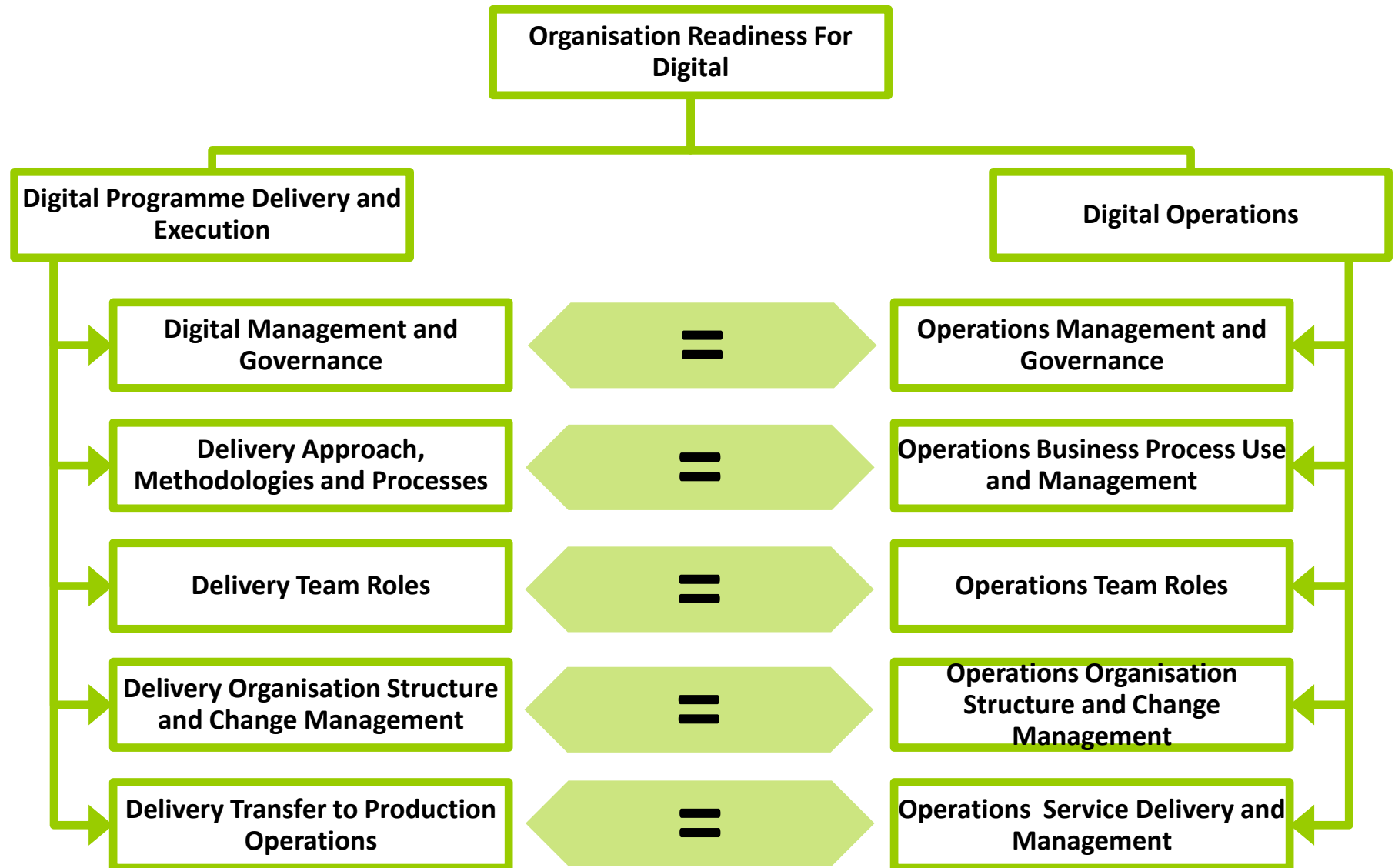
Digital Reference Architecture

- Digital Reference Architecture defines a template solution for the underlying and enabling technology solutions and components required
- Reference Architecture defines the target end-state architecture and the set of interim transitional phases required to enable the delivery of the Digital Functionality Delivery Roadmap
- Digital Reference Architecture exists within the context of the organisation's Enterprise Architecture and other subsidiary architectures

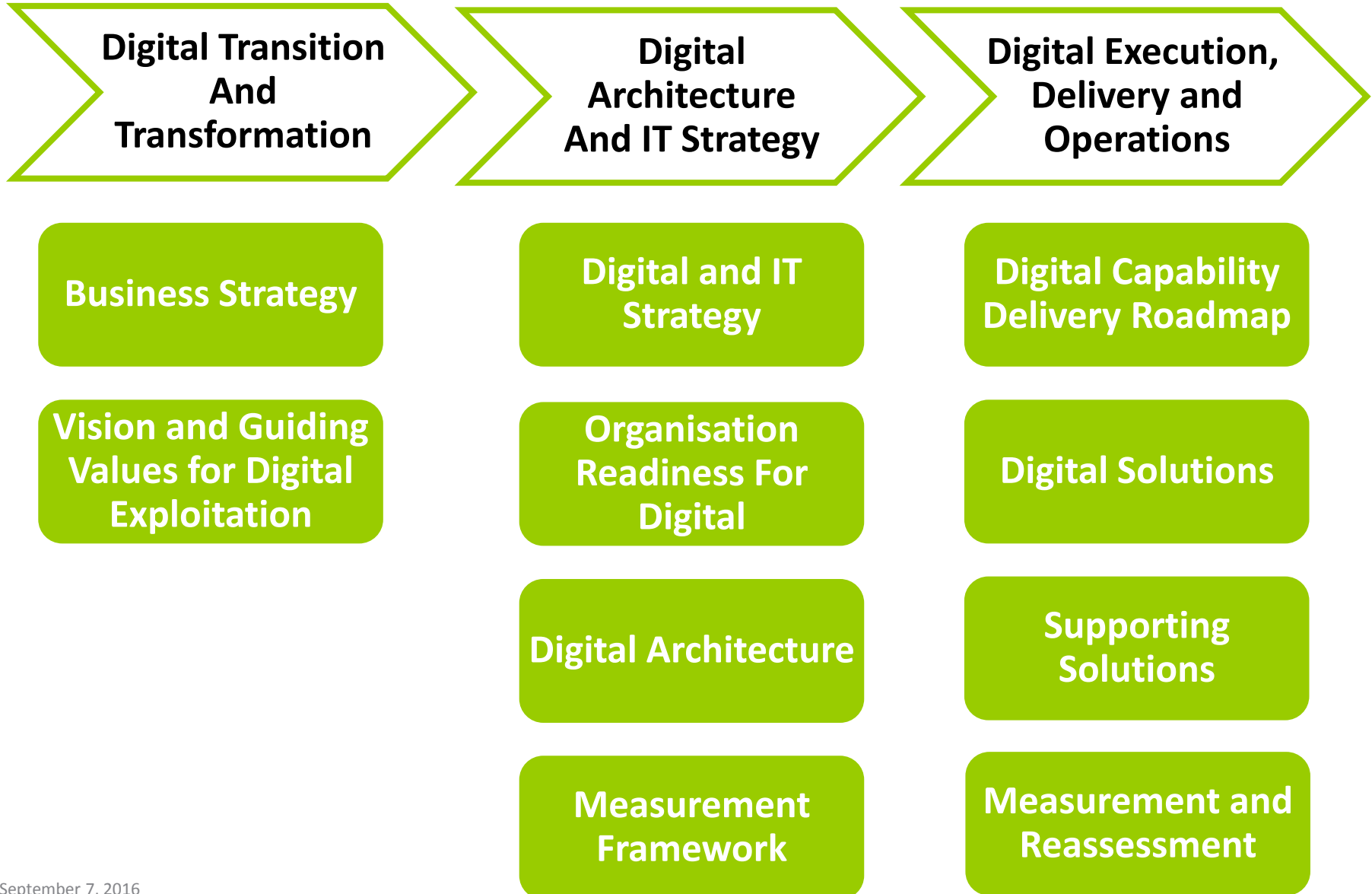
Organisation Readiness For Digital

- Like all major organisation transformation programmes implementing digital initiatives will change the organisation
 - Cross-functional and business process changes
 - Technology delivery changes
- The organisation must be ready for digital in three ways:
 - Be able to deliver digital initiatives that comprise the strategy
 - Be able to change itself to enable the implementation and operation of digital initiatives
 - Be able to operate digital initiatives
- Need to assess the current state of the organisation, its readiness for digital and what is needed to achieve the desired state of readiness

Organisation Readiness For Digital – Assessment Framework

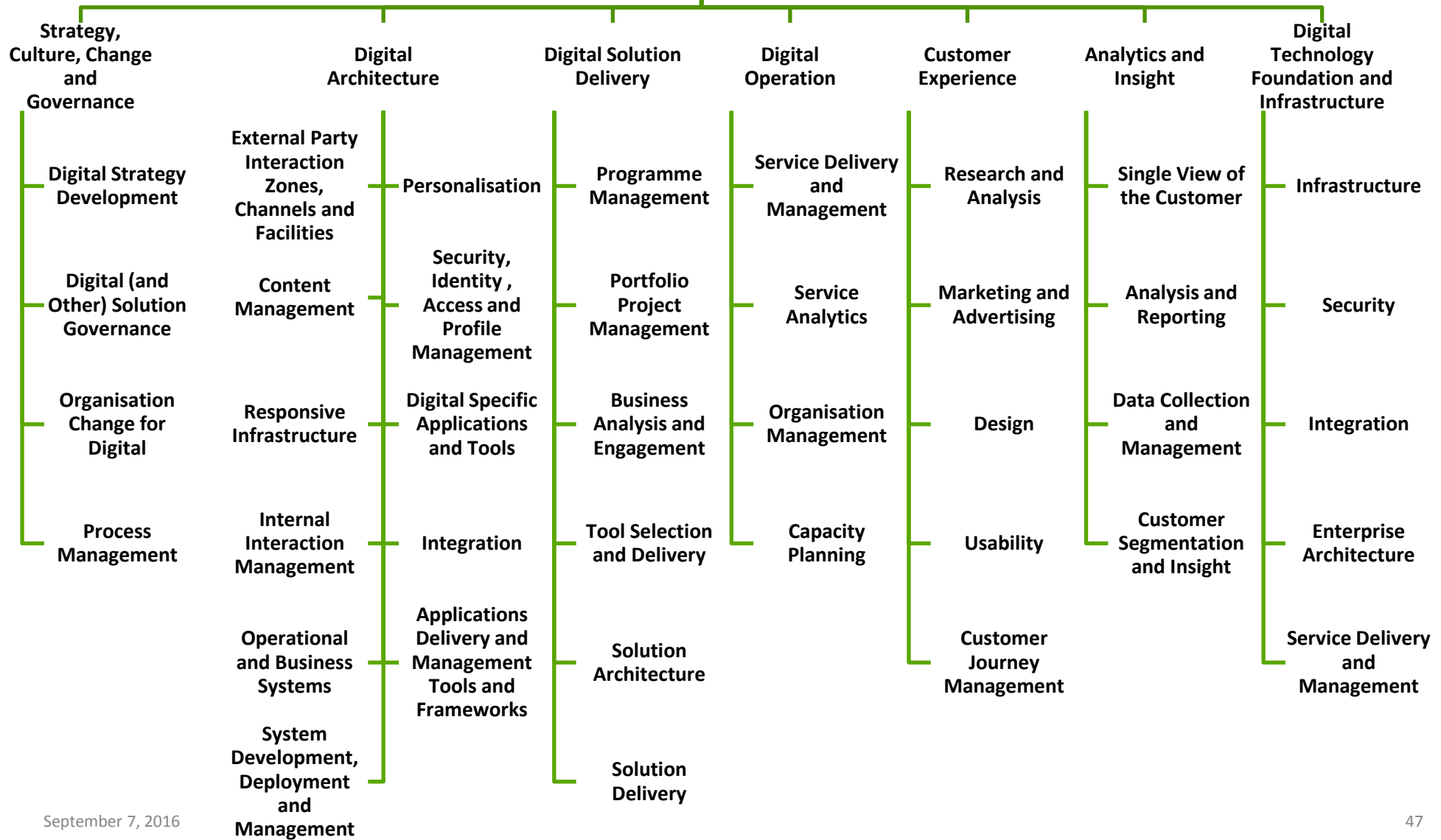


Route To Digital



Digital Organisation Capabilities

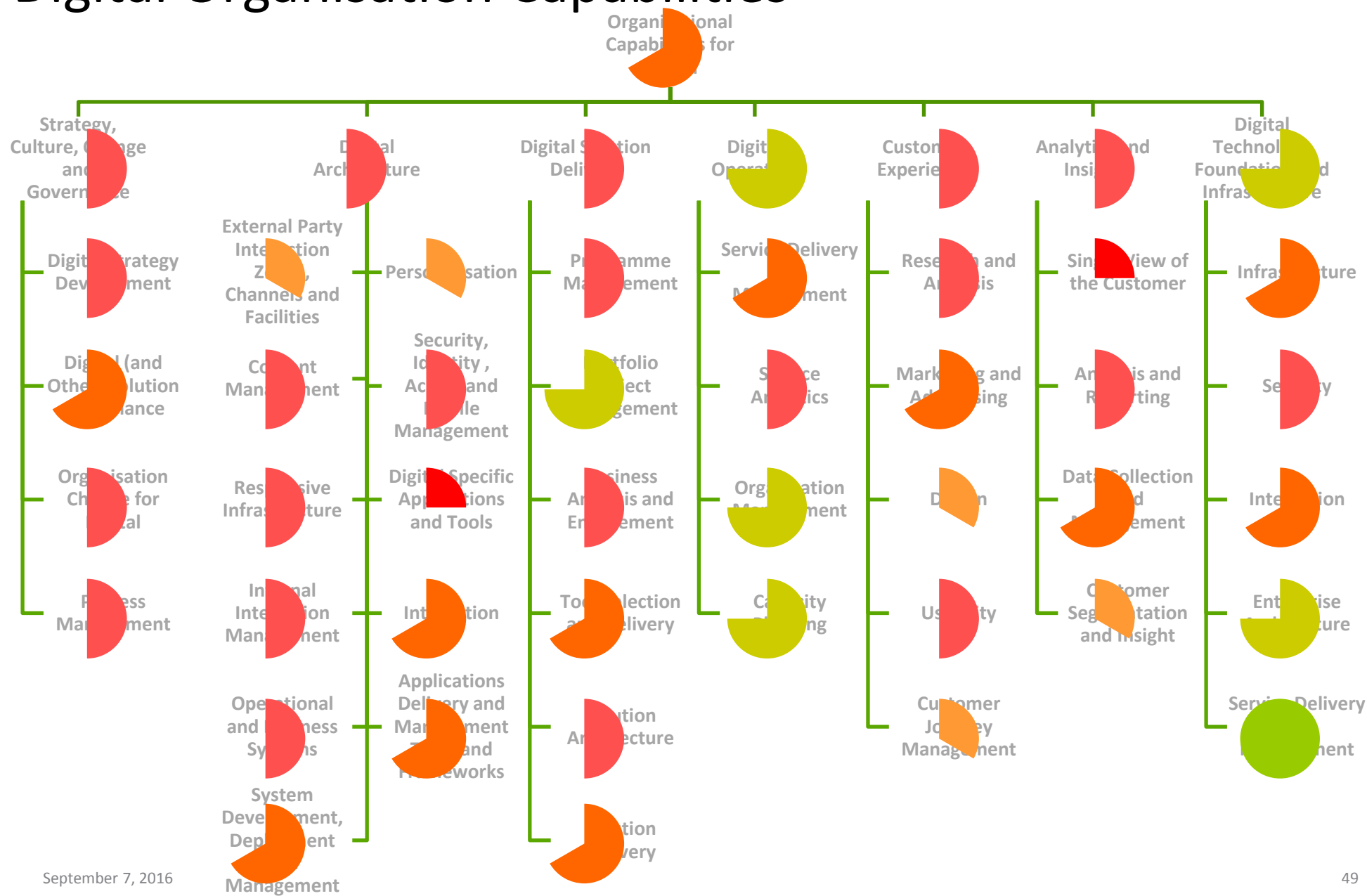
Organisational
Capabilities for
Digital



Digital Organisation Capabilities

- What the organisation needs to be good at in order to develop and deliver on a digital strategy
 - There is substantial overlap between these skills and those of other programme delivery
- Framework to measure where you are and where you need to be
- Develop framework in relation to the digital strategy and what you intend to achieve
- Use to develop plan to address gaps

Digital Organisation Capabilities



Digital Operational Technology Layers

Customer Access and Interaction

Content Aggregation and Management

Extensions to Existing Systems/Data Integration

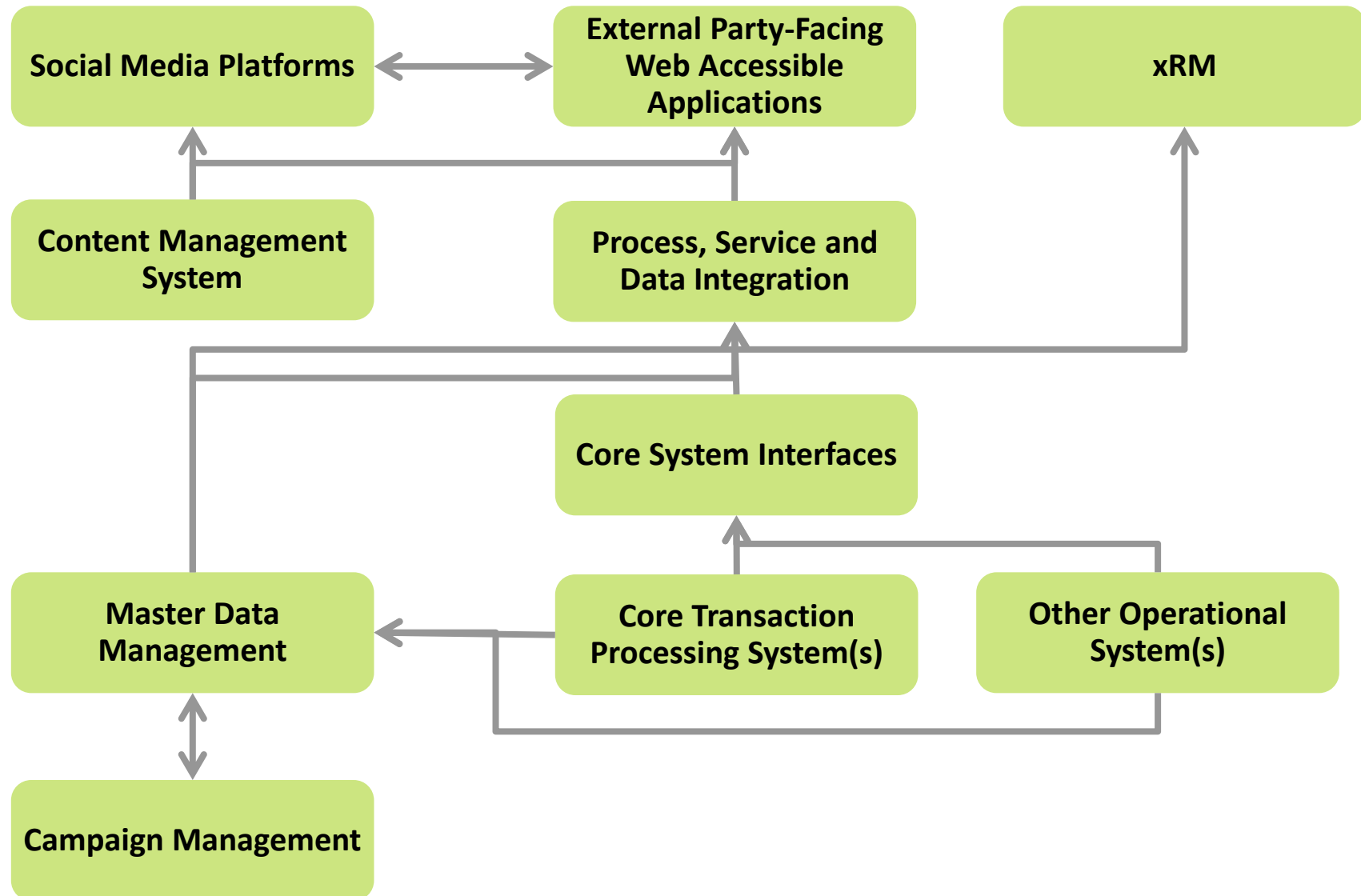
Operational Systems

Analytic Systems

Operational/Technology Component Layers

Layer	Function
Customer Access and Interaction	Presents information and functionality to external parties of agreed types across agreed channels and access mechanisms
Content Aggregation and Management	Provisions and manages static and dynamic information to external parties Implements COPE (Create Once and Publish Everywhere)
Extensions to Existing Systems/Service and Data Integration	Provides direct access to core data and functions of operational systems
Operational Systems	Existing (and possibly new) business systems
Analytic Systems	Provides data analytics and campaign management facilities

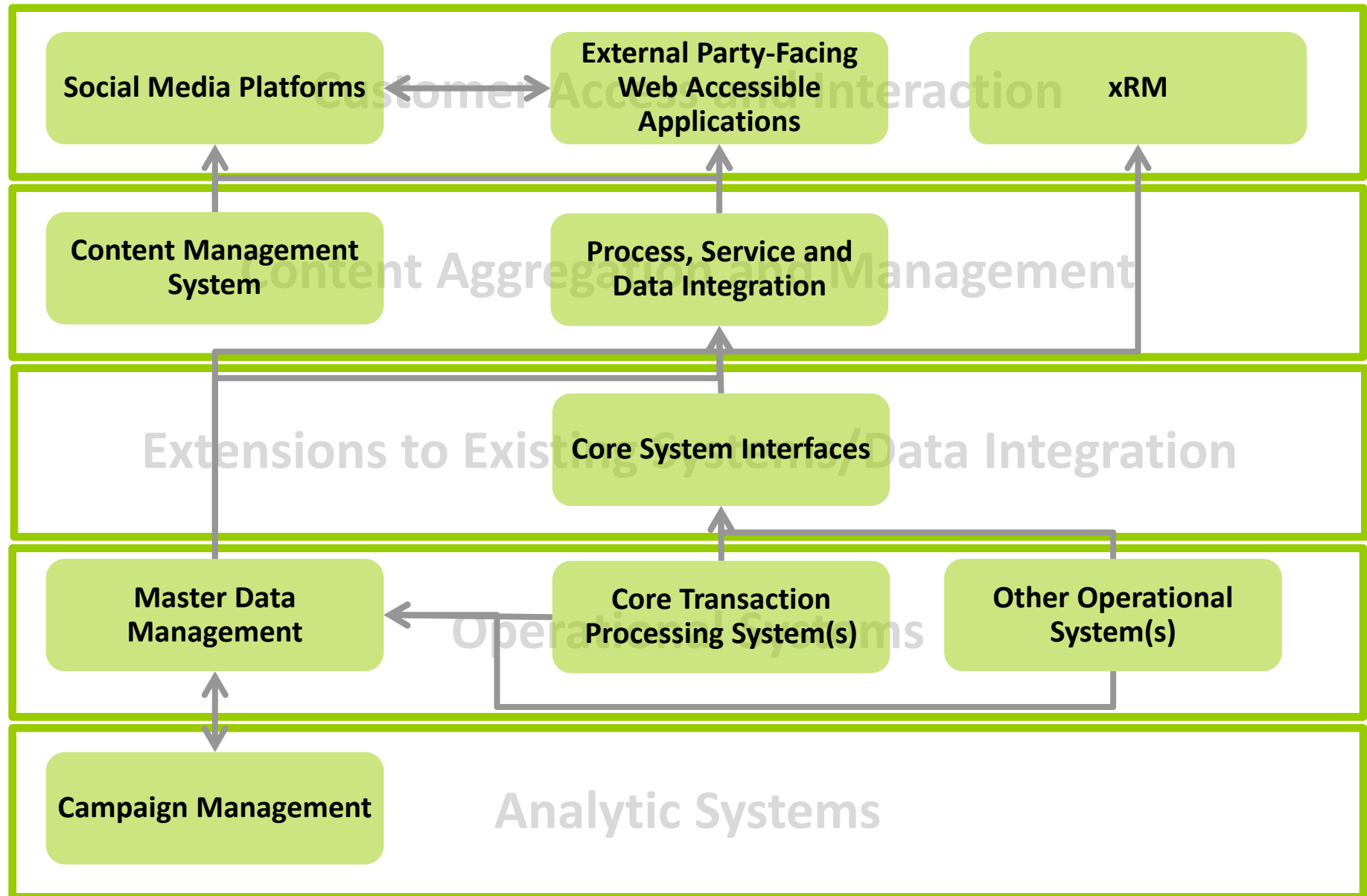
Indicative View Of The Operational/Technology Components And Interfaces To Realise A Digital Strategy



Indicative View Of The Operational/Technology Components And Interfaces To Realise A Digital Strategy

- Initial architecture of the overall technology solution to implement the digital strategy
 - Provides a basis for solution design
 - Know what needs to be done
 - Makes the strategy implementable
 - Breaks it down into achievable chunks of work – “eat the elephant” (in the room)
- Architecture needs to be validated, enhanced and modified if necessary by detailed design phase
- Business case is for analysis and design exercise to produce detailed solution architecture and implementation plan
 - Review available commercial products and tools available
 - Validate costs and benefits

Operational/Technology Layers And Their Components



Summary

- Digital transformation is (very) complex
- Enterprise architecture provides the tools and the approaches to manage the complexity of digital transformation
- Management must appreciate the technology focus and the benefits of an enterprise architecture approach
- Early involvement of enterprise architecture increases successes and reduces failures
- Management must trust and involve enterprise architecture
- Enterprise architecture function must accept and rise to the challenge and deliver
- Enterprise architecture function must allow its value to be measured
- Digital architecture does not exist in isolation entirely separate from an organisation's overall enterprise architecture
- Digital architecture must exist within the wider enterprise architecture context

More Information

Alan McSweeney

<http://ie.linkedin.com/in/alanmcsweeney>