Electricity Supply Board (ESB)

Our transformation to meet current and future business needs.

Dermot Mangan – ESB IT Infrastructure Manager

Agenda

- About ESB
- Our Linux Transformation
- The Migration
- Future ESB Business Needs

About ESB

About ESB…

Energy for generations

Generation and Trading

Generates electricity through
Coal, Gas, Hydro, Wind etc.

ESB Networks

Distributes the electricity generated
from the stations around the country

Electric Ireland

electric ireland
Smarter Living

Sells the electricity to domestic and business customers in the Irish & UK market

Some Additional Areas…

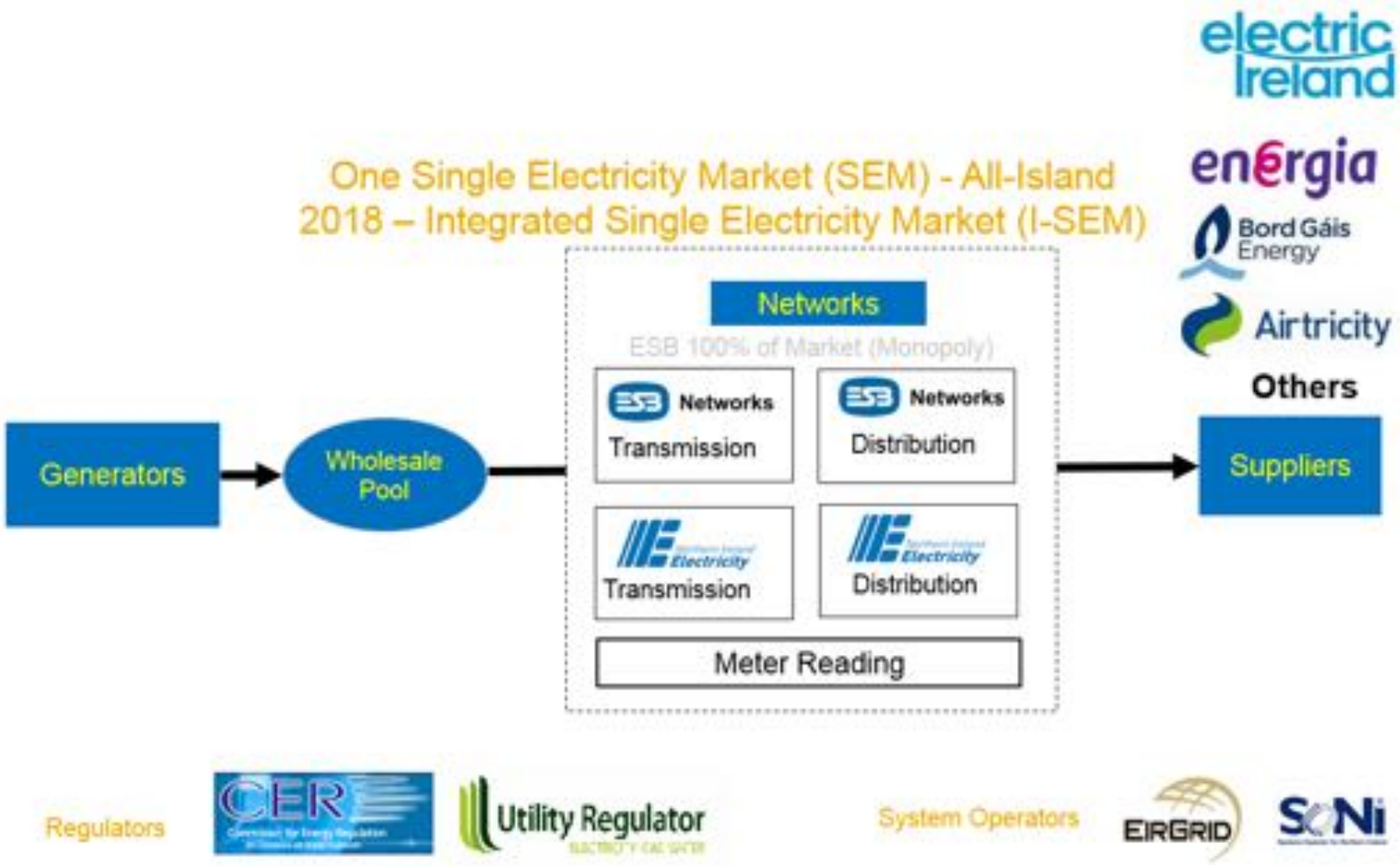
Innovation

Smart Energy Services

Northern Ireland Electricity Networks

ESB ecars

Electricity Market…



Our Linux Transformation

2014-2019

Initial Scope…

ESB's SAP/DB2 Enterprise applications because…

Aix on PSeries

UNIX

Redhat Linux on x86\VMWare

x86/Linux/VMware Expected Benefits

Energy for generations

Business Growth

- Scalability & Flexibility

Business Agility

- Responding quickly to meet project demands and performance demands

Reduce IT Costs

- Lower Cost Commodity hardware.
- Lower Cost Hardware & Software Maintenance

Future Proofing

- According to Gartner Industry Trends, market trends showing AIX are in decline (20%), where as x86/Linux platforms are growing their market share (80%)
- x86 servers are non-proprietary hardware
- Alignment with SAP Hana Strategy (SAP HANA appliance was at that time only supported on Linux/x86)

X86/Linux/VMware Possible Risks

Energy for generations

Risks

- Lack of Linux Skills within ITS
- New Enterprise Hosting processes in place for Linux
- Confidence X86/Linux/VMware can match performance of AIX/PSeries

The Migration

SAP ERP 6.0

- 2TB Production System
- 3,000 Users
- 135 Company Codes
- 5,000 General Ledger Codes
- 450 Plants
- 1120 Profit Centres
- 4,000 Cost Centres
- 20,500,000 FI Documents
- 25,000 Active Vendors
- 145,000 Vendor Payments
- 70,000 Purchase Orders p.a.
- 16,000 WBS Elements
- 162,000 PM Orders p.a.
- 7,000 Employee Payroll
- Pensioners Payroll

SAP IS-U – Electric Ireland

- 5TB Production System
- 1.2M customers
- 950 users (540 concurrent)
- 10.9M Bills Per Annum
- 60K calls per day
- 15M Payments
- 110,000 Letters
- 11.5M Market Messages

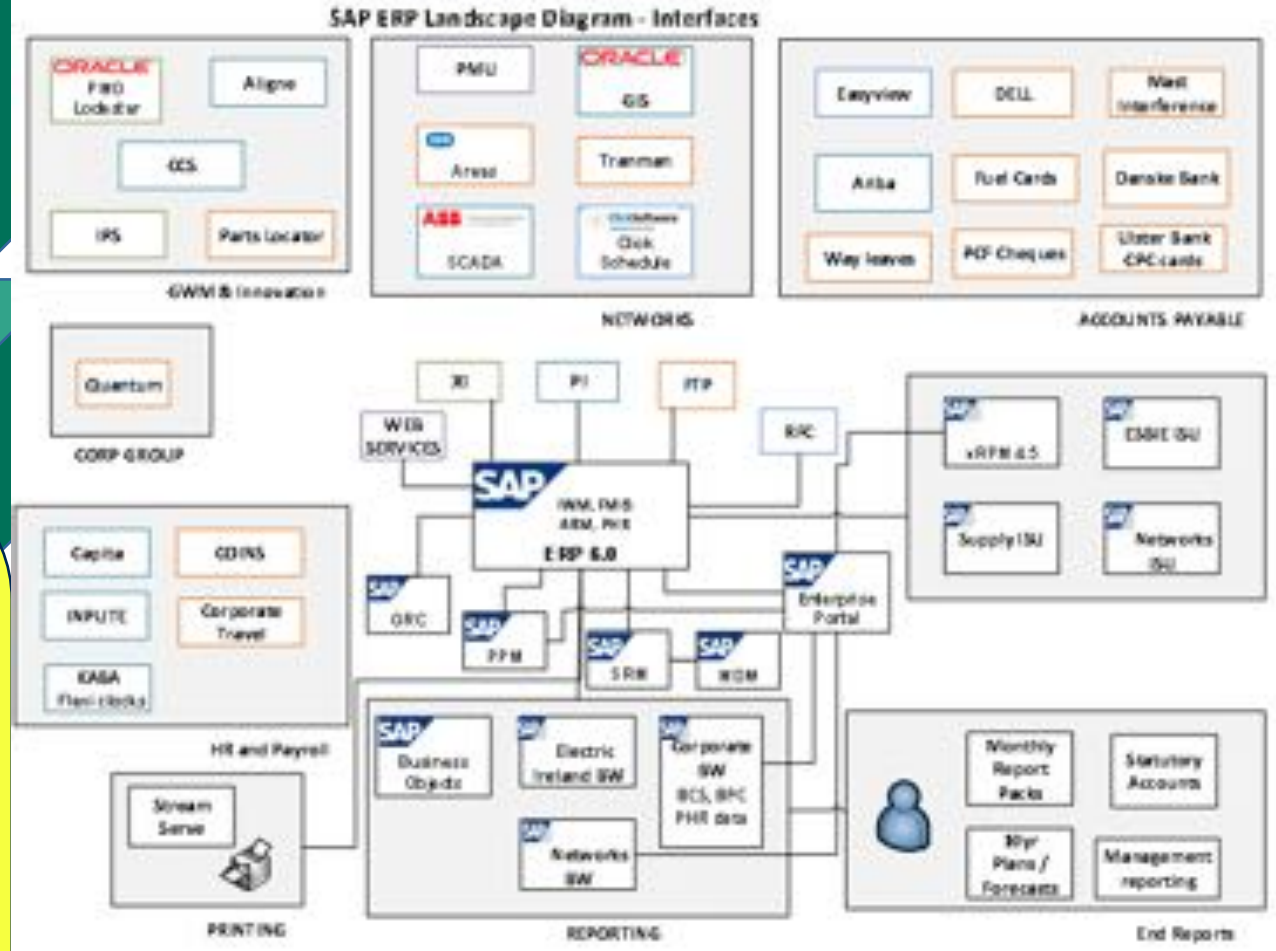
SAP PPM (Project &

SAP IS-U – ESB Networks

Energy for generations

SAP UCES – Electric Ireland

- Web Based EBilling Functionality



ESB's Current Use of SAP Software to meet current Business Needs

- 19 Productive Systems / Products
- Supporting over 100 systems / clients (Including Development, Test and Pre-Prod)
- Complex Environments that supports / enables the majority of ESB's Business Processes
- Upgrade, Enhancement Pack and Service Pack Application are constant features of our environment

SAP IS-U – Old ESB Independent Energy System

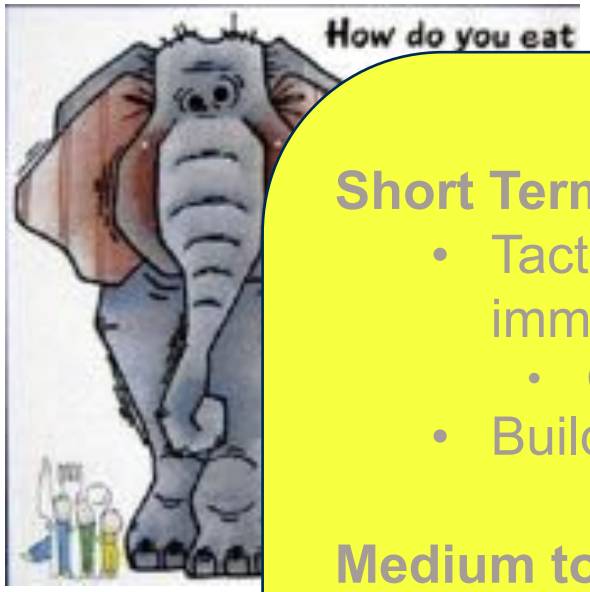
SAP CRM 7.0 – Electric Ireland

- Supports Campaign Management only
- 1.2M Active Business Partners.

SAP Solution Manager

Forecasting

Our Strategy for Migration…



Short Term (2013/2015)

- Tactical small scale expansion of AIX to meet immediate SAP business demand
  - CRM7 project in 2013/2014
- Build an Enterprise Linux Hosting capability

Medium to Long Term (2014-2018+)

- Deploy new SAP systems on production Linux/x86 infrastructure
  - i.e. PCP (SRM) , PPM, MCFU
- Migrate existing AIX installations to x86/Linux in the Medium Term
- Operate a unified x86 (Windows and Linux) infrastructure in the Long Term

SAP System Migrations from AIX to Linux/VMware

Energy for generations

2015

PPM PCP MCFU

VMware/x86

IRP ERP Portal Corp BW Net BW CRM

p550 p57 p750 p770

Future ESB Business Needs

“to lighten human burdens, to brighten human lives”

Energy for generations

DIGGING 4,000 TONS A DAY

This machine is a Bucket Dredger used in digging the canal, which will carry the diverted waters of the Shannon to the Power Station. In the construction of this canal thirteen million tons of earth had to be excavated. The Bucket Dredger is operated by two men controlling four small electric motors totalling less than 200 horse power. It digs the earth, transports it, and fills it into rolling wagons. Machines such as this using electric power have made possible the construction of the Shannon Works in three short years.

Such is the mighty performance of one of the giant excavators on the Shannon Works.

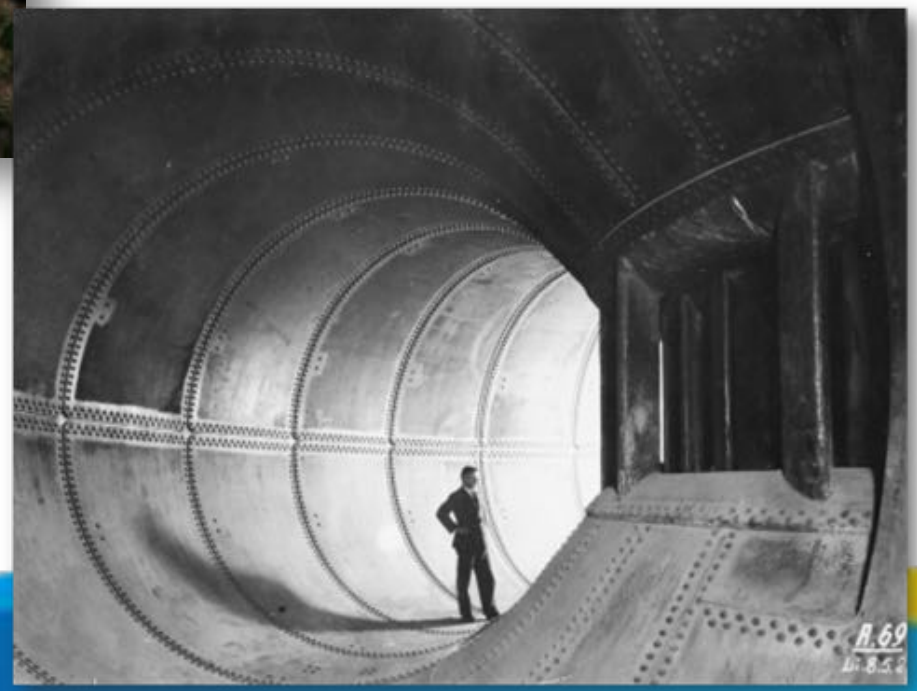
This single piece of electric driven machinery does the back breaking work of hundreds of navvies.

For centuries the world has wasted its most precious possession—human lives—in labour that electricity can do.

Even to-day in our country, on the farm, in the home, and in the factory, men and women are wearing out their lives doing the work electricity should do.

The Shannon is being harnessed to lighten human burdens, to brighten human lives.

THE ELECTRICITY SUPPLY BOARD



ESB Advertisement 1928

#brighterfuture

esb.ie

ESB's ambition is to
Create a Brighter Future
by leading the transition
to a low carbon world

The 2050 challenge

Energy for generations

40m tonnes (2017) **Carbon Emissions** **<7m tonnes (2050)**

Since 1990, the carbon intensity of electricity has halved and by 2050 the electricity sector in Europe will be carbon free

Woodhouse wind farm, Waterford

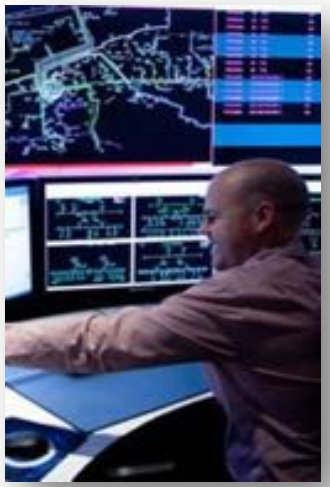
The job to be done

Energy for generations

Find the best path to maintain affordability and energy security

Decarbonise electricity and electrify heat and transport

Low carbon generation



Smart Reliable Networks

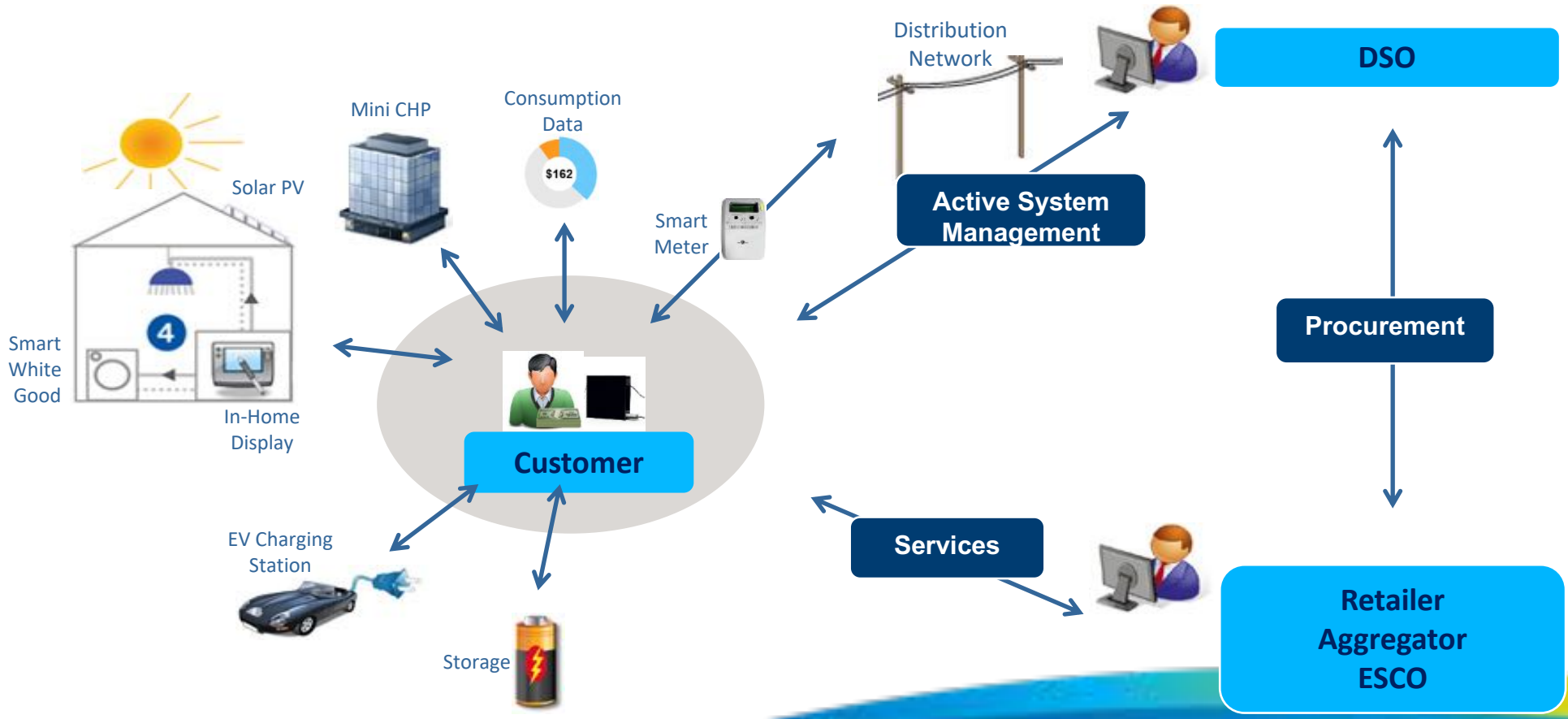
Empowered, informed customers

Electric heating and transport

The Role of Technology

Energy for generations

A new market framework is needed



Source: eurelectric

DIGITAL IS CHANGING THE TRADITIONAL UTILITY

Energy for generations

DIGITAL ASSETS & OPERATIONS

DIGITAL EMPLOYEE

DIGITAL CUSTOMER

The digital custom
digital devices to m

DATA

ANALYTICS

UNLOCK OUR DIGITAL UTILITY

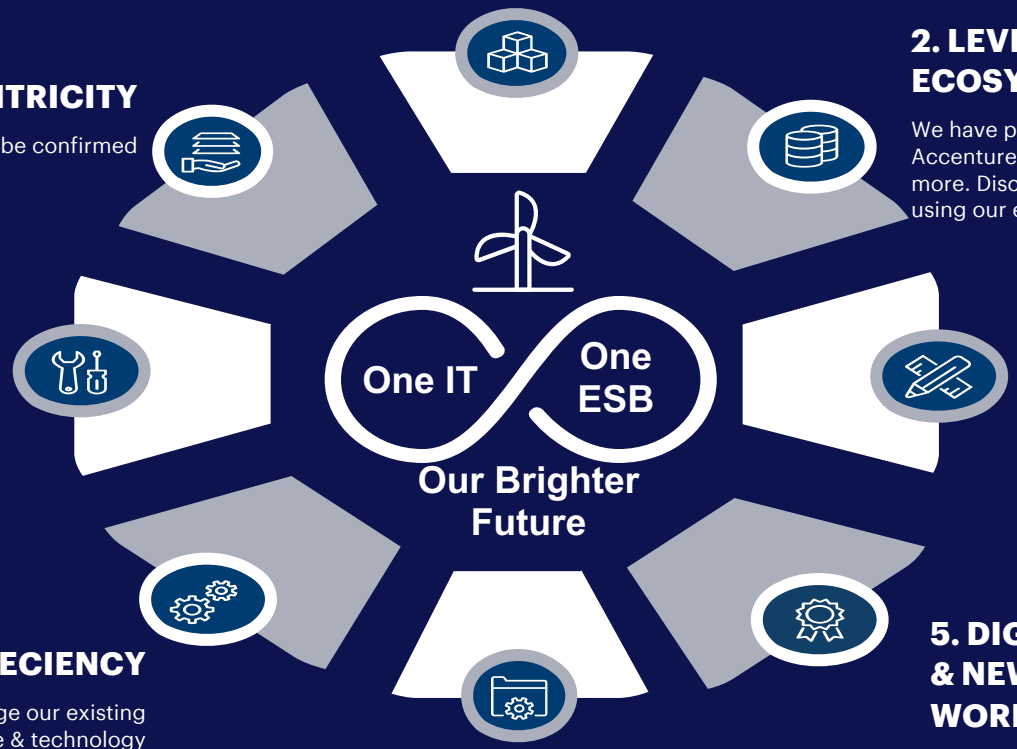
One IT will lead ESB's transformation to a data driven Digital Utility

DIGITAL BUSINESS STRATEGY

PERFORMANCE OPTIMISATION

BUSINESS TRANSFORMATION

1. IMPROVED PRODUCTIVITY & PRODUCTS
2. BETTER CUSTOMER EXPERIENCE
3. NEW PRODUCTS SERVICES
4. NEW BUSINESS MODELS



1. DISCOVER & SHAPE

Using One IT, research, shape & test your Digital Ideas

2. LEVERAGE OUR ECOSYSTEM

We have partnerships with Accenture, EY, Deloitte and many more. Discover your potential ideas using our extended global networks

3. END TO END PRODUCT MANAGEMENT

DevOps, Rapiid Development

5. DIGITAL TALENT & NEW WAYS OF WORKING

Agile, Accelerator, fast delivery- Content to be confirmed

7. ENABLING SERVICES

Cybersecurity, Enterprise Architecture, Cloud

6. COST EFFIECIENCY

Explore & leverage our existing architecture & technology

8. Cloud Services

Content to be confirmed

9. CUSTOMER-CENTRICITY

Content to be confirmed

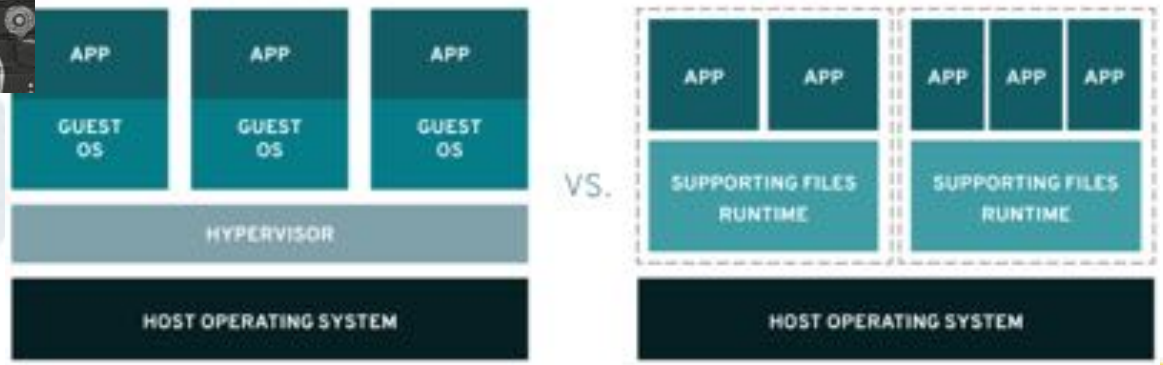
ESB's IT Meeting Future Needs…

Energy for generations

SAP S/4 HANA

Process

Business process mar



ESB's IT Meeting Future Needs…Not just Technology

Energy for generations

Tech Excellence Awards

Public Sector Project Of The Year 2019

Thank you

Contact Details - Dermot.Mangan@esb.ie

#brighterfuture