Practicing knowledge | delivering impact

Sustainability is at our heart

Enzen was established with a singular purpose.

To make energy and water affordable, accessible and sustainable for all.

Global **Experience** – Local **Presence**

Customers
Globally 255+
Across the group

Employees
Globally: 4200+

Locations
Offices in 8 Countries
Delivery to 26+ countries
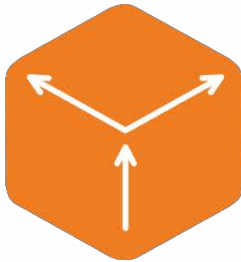
Growth
Revenue CAGR of 67%
since inception
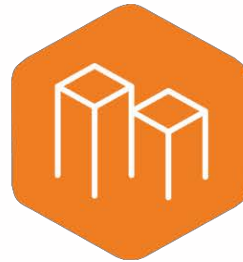
Our **Capability** & **Structure**

Business Units

BUSINESS TRANSFORMATION

We help energy and water businesses develop strategy and manage sustainable change to deliver transformative advantage

BUSINESS OPERATIONS

We connect performance and operations to enhance asset value and consistently deliver frontier levels of efficiency, customer experience and asset reliability
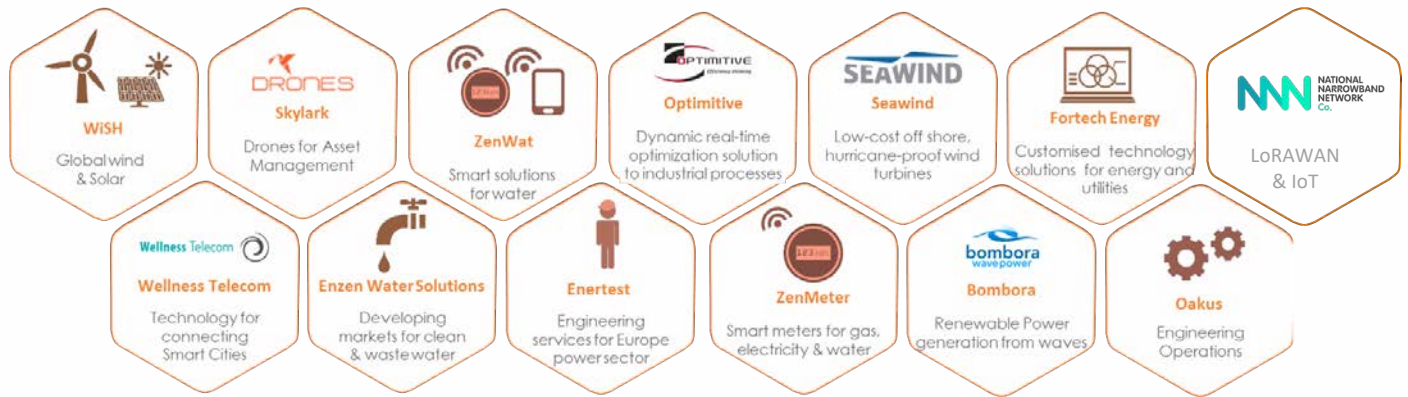
ENERGY AND WATER NETWORKS

We help our customers move to Transactive Smart Networks of the future by identifying and delivering consumer centric, holistic asset network solutions

DIGITAL ENTERPRISE

We help energy and water businesses utilise digital technology by creating tools to measure, automate and optimise workflows,

Controlled Entities

WiSH
Global wind & Solar

Skylark
Drones for Asset Management

ZenWat
Smart solutions for water

Optimitive
Dynamic real-time optimization solution to industrial processes

Seawind
Low-cost off shore, hurricane-proof wind turbines

Fortech Energy
Customised technology solutions for energy and utilities

LoRAWAN & IoT

Wellness Telecom
Technology for connecting Smart Cities

Enzen Water Solutions
Developing markets for clean & waste water

Enertest
Engineering services for Europe power sector

ZenMeter
Smart meters for gas, electricity & water

Bombora
Renewable Power generation from waves

Oakus
Engineering Operations

Partner

smarter grid solutions
Energy monitoring & control

Integrating Industrial IoT into your Business

THE ENZEN GROUP

JULY 2020

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IoT: Why Now – A Tipping Point?

COVID and natural disasters are driving the need for:

- Agility and business continuity

- Remote access and control

- Asset, equipment and material tracking

- Supply chain visibility

- People proximity, tracking and health monitoring

- Government community infrastructure stimulus
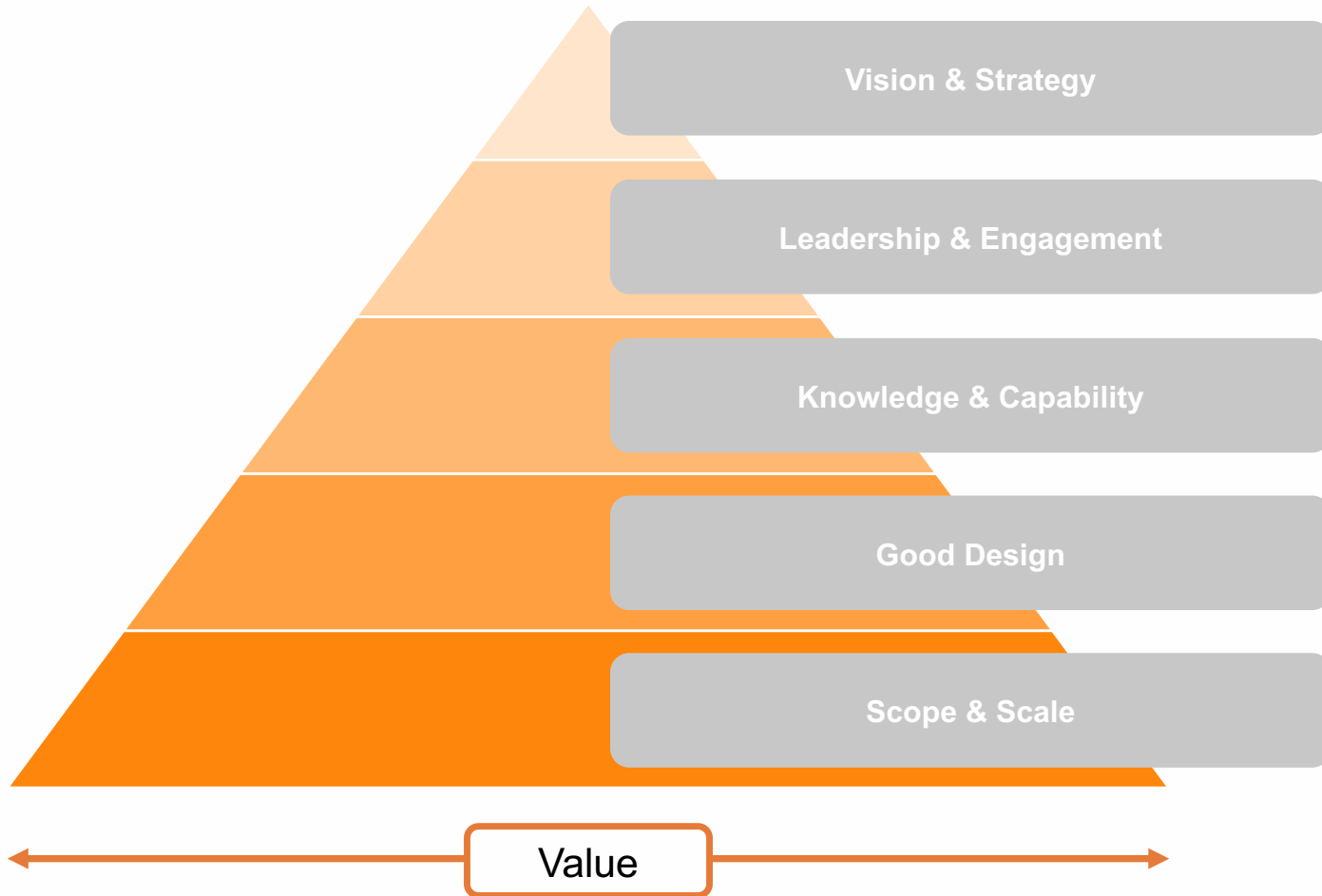
- Business & community efficiency & innovation

Scarcity, security & environmental impact on resources

- Drought – water scarcity & management

- Energy security – commodity vs services, passive vs active management, increased renewable hosting capacity

Success is a Product of:

One of the greatest projects of the Great Depression era, The Rockefeller Center & integrated media complex – Radio City

Vision & Strategy

Leadership & Engagement

Knowledge & Capability

Good Design

Scope & Scale

Value

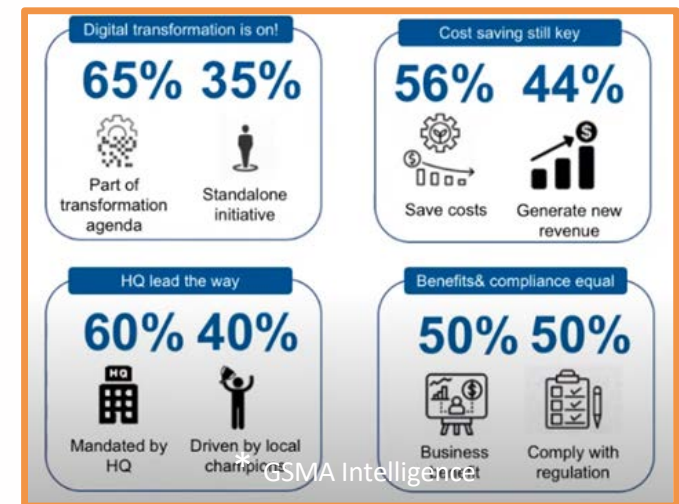# Success requires Vision & Strategy

- **Vision** – 1, 5 and 10-year horizons

- **Strategy**

  ➢ An **Enterprise strategy** that includes environmental scans on customer expectations, markets, technology, policies and regulatory changes

  ➢ A sub-ordinate **Digital Transformation Strategy** – how does IoT fit with the digital architecture

  ➢ An **IoT Strategy** and **Roadmap**
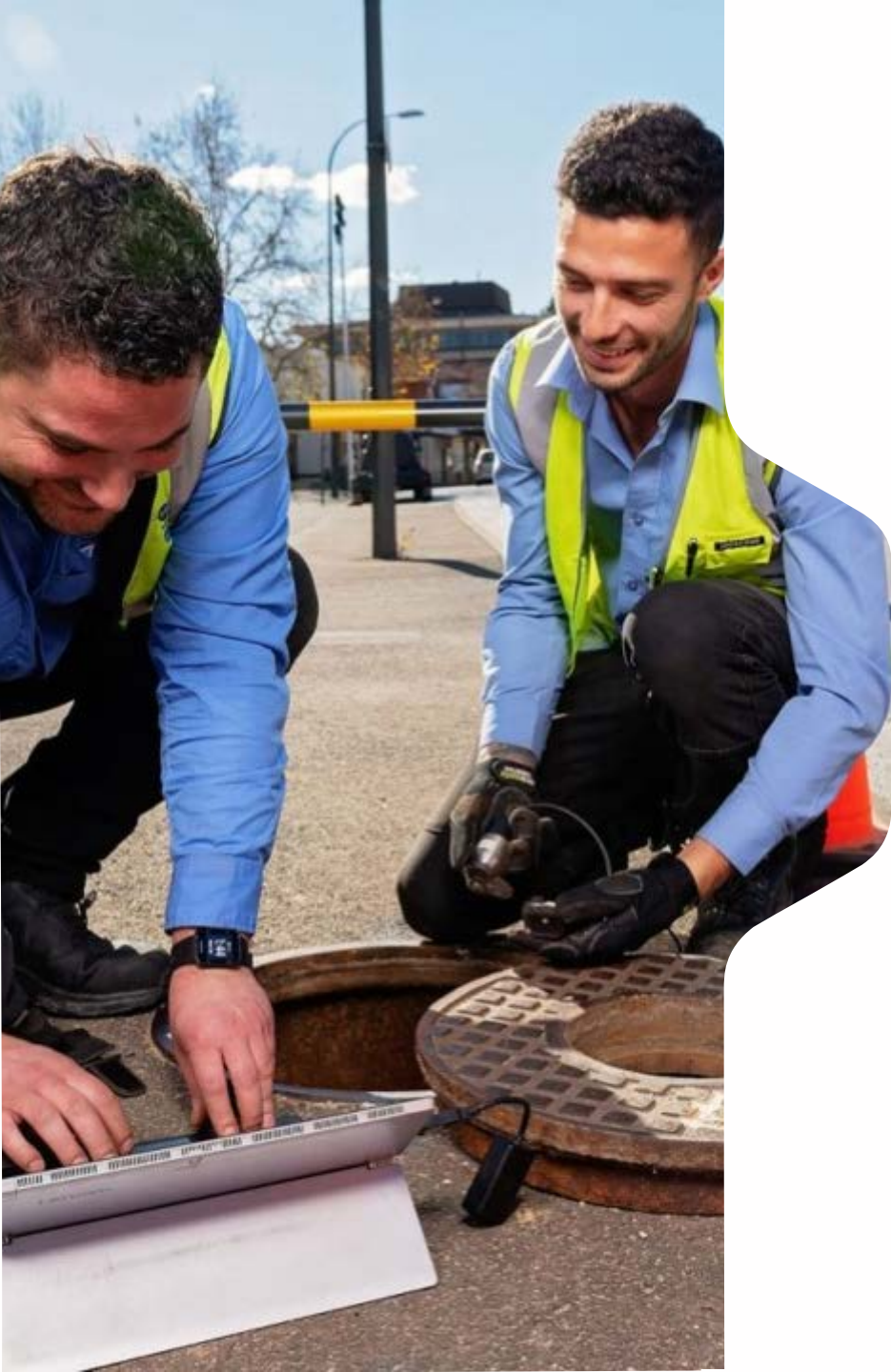

GSMA Intelligence

Success requires Leadership & Engagement

- Create **social** & **economic** value for the business and the community

- Ensure horizontal and vertical **ownership** within the business

- **Communicate, collaborate** and **engage** with employees and unions

- **Democratise** data and knowledge

- Use the agility of IoT as a **platform for Innovation**

- Understand the **real cost** i.e. SCADA vs IoT

- Implement **new operating models**

- Consider ownership of the IoT network as part of your **customer and community engagement** strategy

Agriculture Victoria On-farm IoT Trials

Birchip trial (Grains)

Tatura trial (Horticulture)

Maffra trial (Dairy)

Serpentine trial (Sheep)

CONNECTING VICTORIA

Victoria's On-Farm Internet of Things Trial
Catalogue of Apps & Devices
June 2020

AGRICULTURE VICTORIA

Success requires Knowledge & Capability

- Develop **Data Requirements** to feed the strategy
- **Learn** from others by leveraging existing research and development, trials and scale deployments
- Engage a system integration and business transformation **partner**
- Develop internal capability in IoT, data science and operations **expertise**
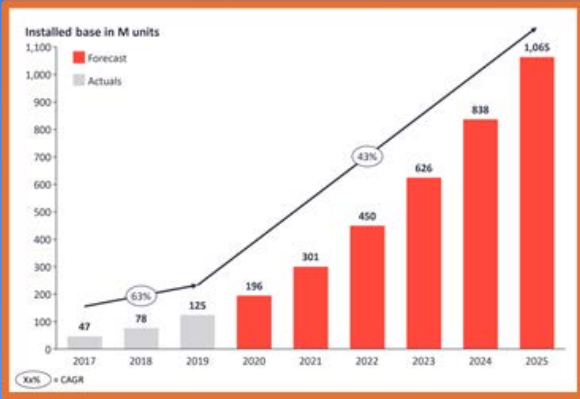
Success requires **Good Design**

- Use **Open Standards** to increase competition, agility and flex - avoid vendor lock in and leverage development communities

- Design network architecture – fit for purpose (see illustration) **Carrier Grade** networks with device management

- Ensure mature **Cyber Security** capabilities

- Establish an any network **IoT Enterprise Data Layer** to integrate IoT data with other enterprise systems

- Ensure **interoperability** and **multi tenant** capability

- Ensure **control** and **multicast capability**

- Choose a suitable **business model**

  ➢ IoT as a service

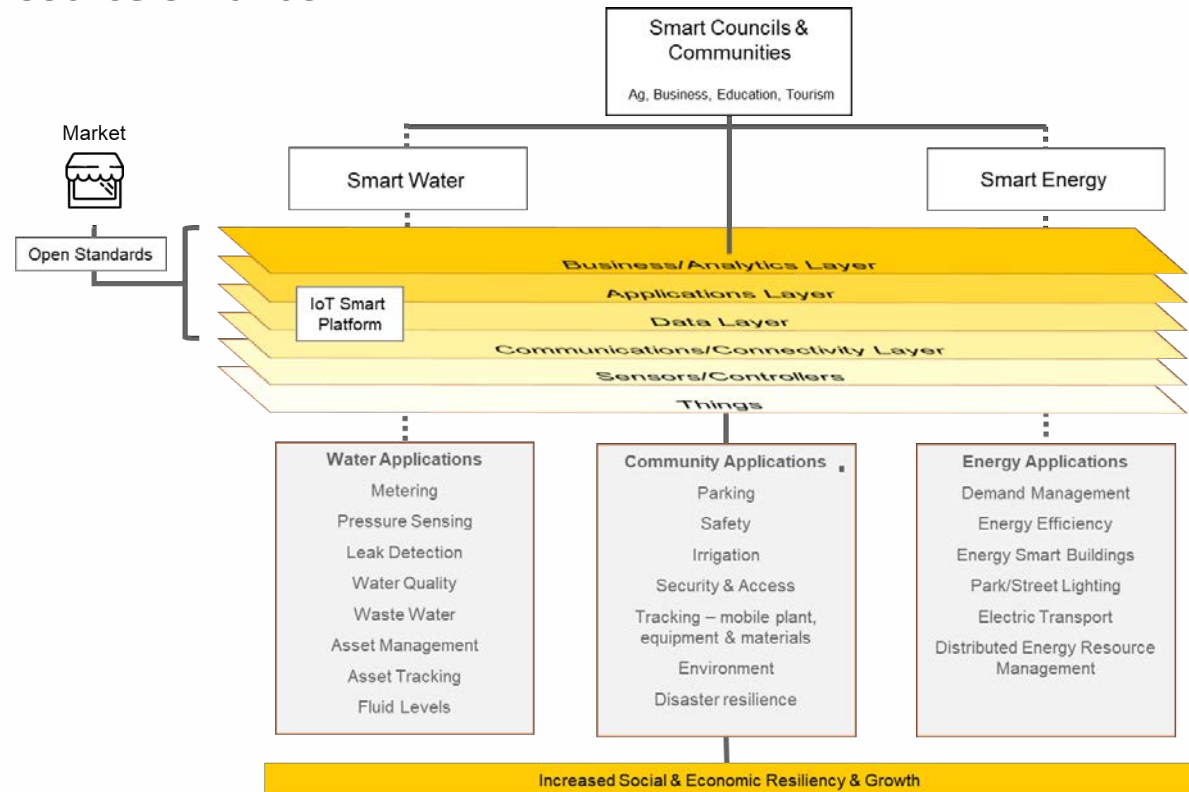 ➢ Infrastructure partnership – data & revenue

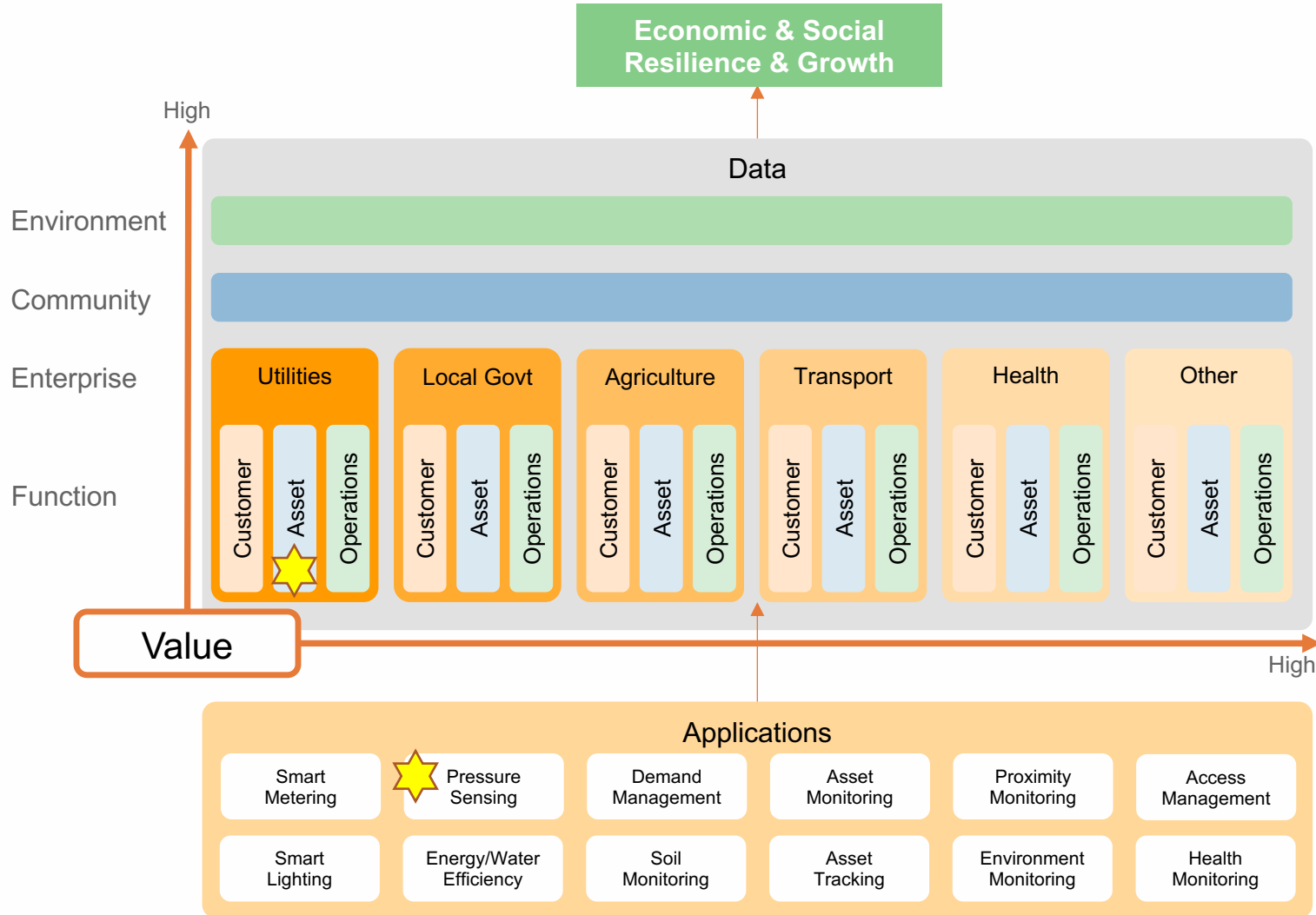|	Local Area Networks (Bluetooth, ZigBee, WiFi)	Cellular (3G, 4GLTE, CDMA)	LPWAN Low Powered Wide Area Network
DATA RATE	~100kbps-100mbps	~100kbps-100mbps	~10kbps
RANGE	Short	Long	Long
BATTERY LIFE	Varies	Short	Long
COST	Expensive	Expensive	Efficient
EXAMPLE USE CASES	In-home/Building & Consumer	Traditional M2M	55% of IoT Market

Success requires Scope & Scale

- Assess **all of business** internal applications and value – no silos, bolt-ons or exclusion of management services

- Consider IoT Platform services to **customers & third parties**

- Leverage the **energy & water nexus** to create a sustainable source of funds
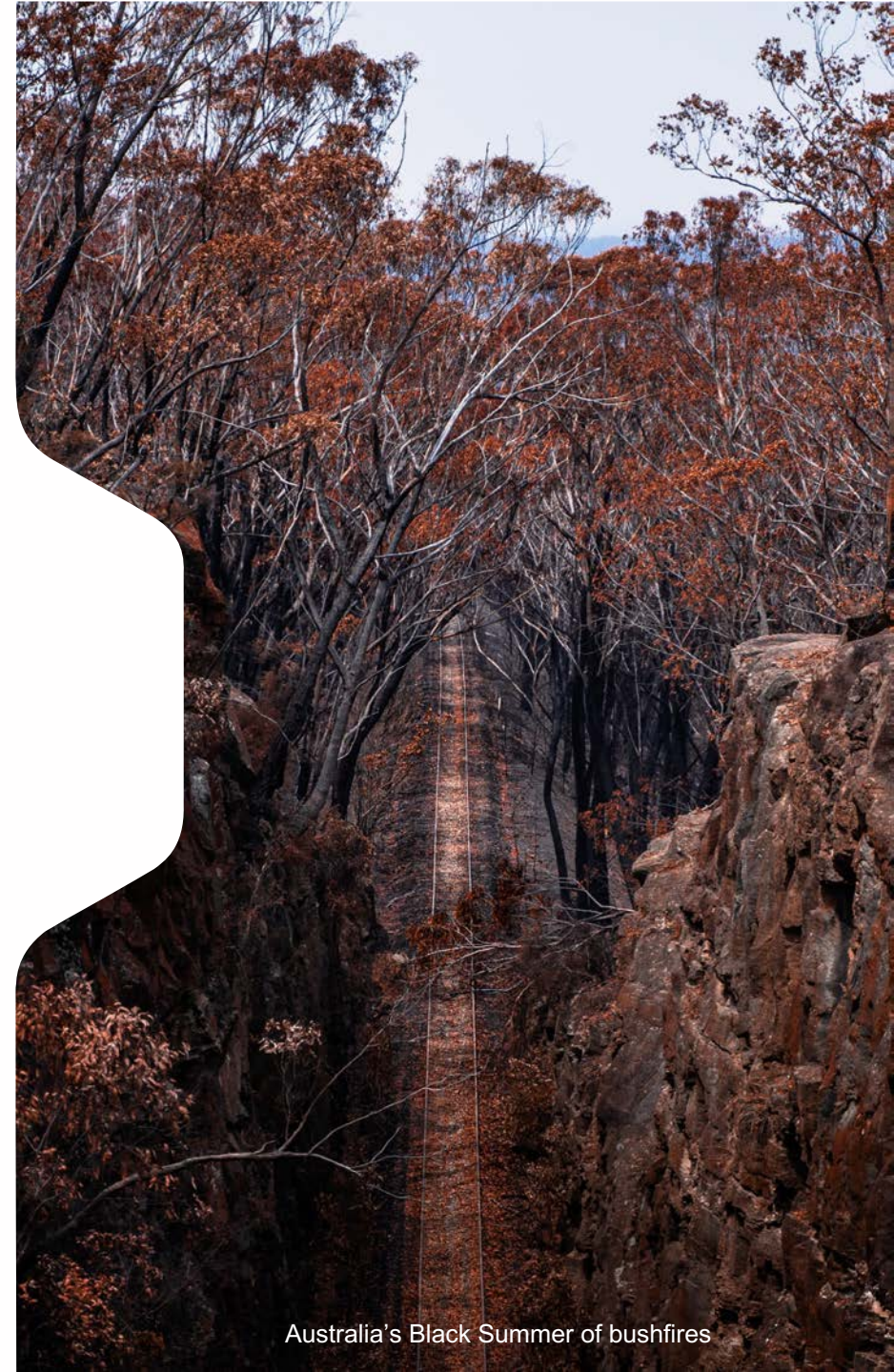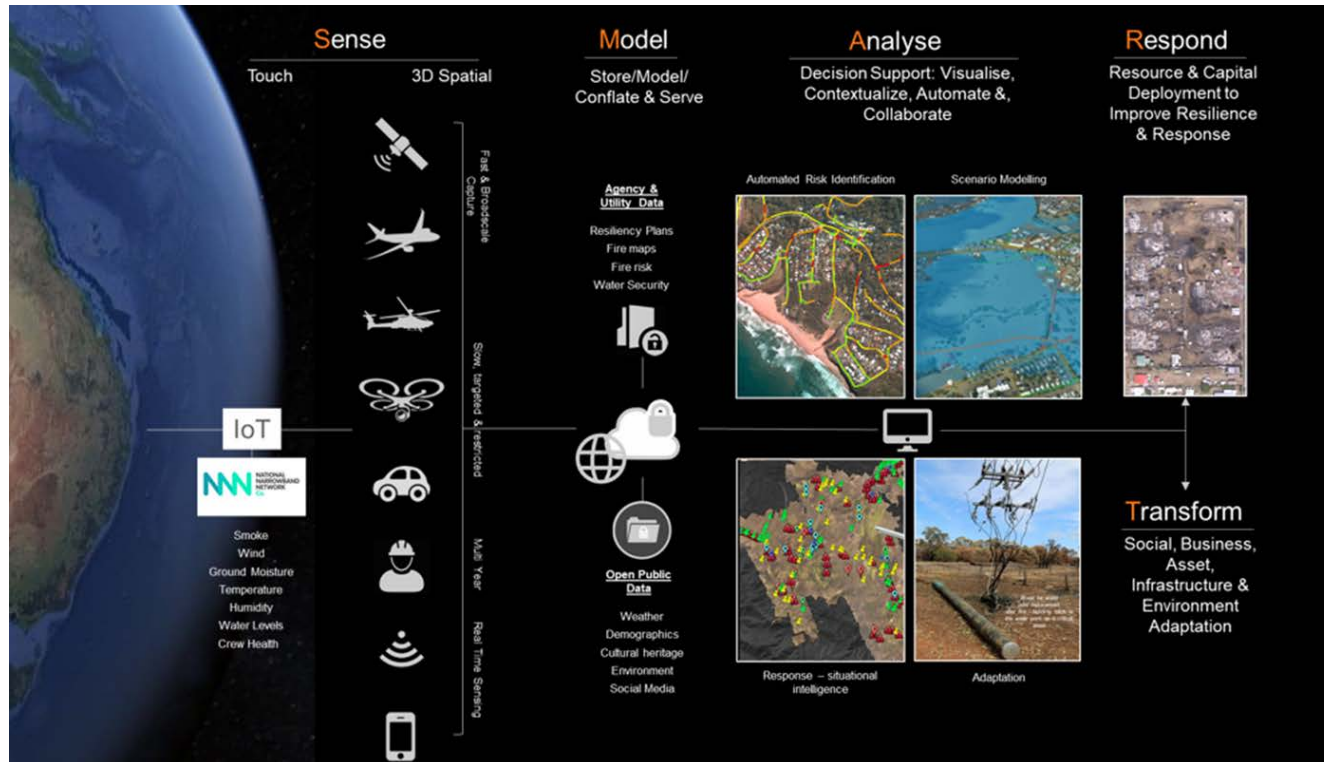
Amplifying Value

Economic & Social Resilience & Growth

High

Data

Environment

Community

Enterprise

Utilities	Local Govt	Agriculture	Transport	Health	Other
Customer / Asset / Operations	Customer / Asset / Operations	Customer / Asset / Operations	Customer / Asset / Operations	Customer / Asset / Operations	Customer / Asset / Operations

Function

Value

High

Applications

Smart Metering	Pressure Sensing	Demand Management	Asset Monitoring	Proximity Monitoring	Access Management
Smart Lighting	Energy/Water Efficiency	Soil Monitoring	Asset Tracking	Environment Monitoring	Health Monitoring

Example: Disaster Smart Solution

A sensed territory conflated with other enterprise and public data will increase social and economic resiliency

Australia's Black Summer of bushfires