Mega Trends impacting the need for Social Innovation in Australia

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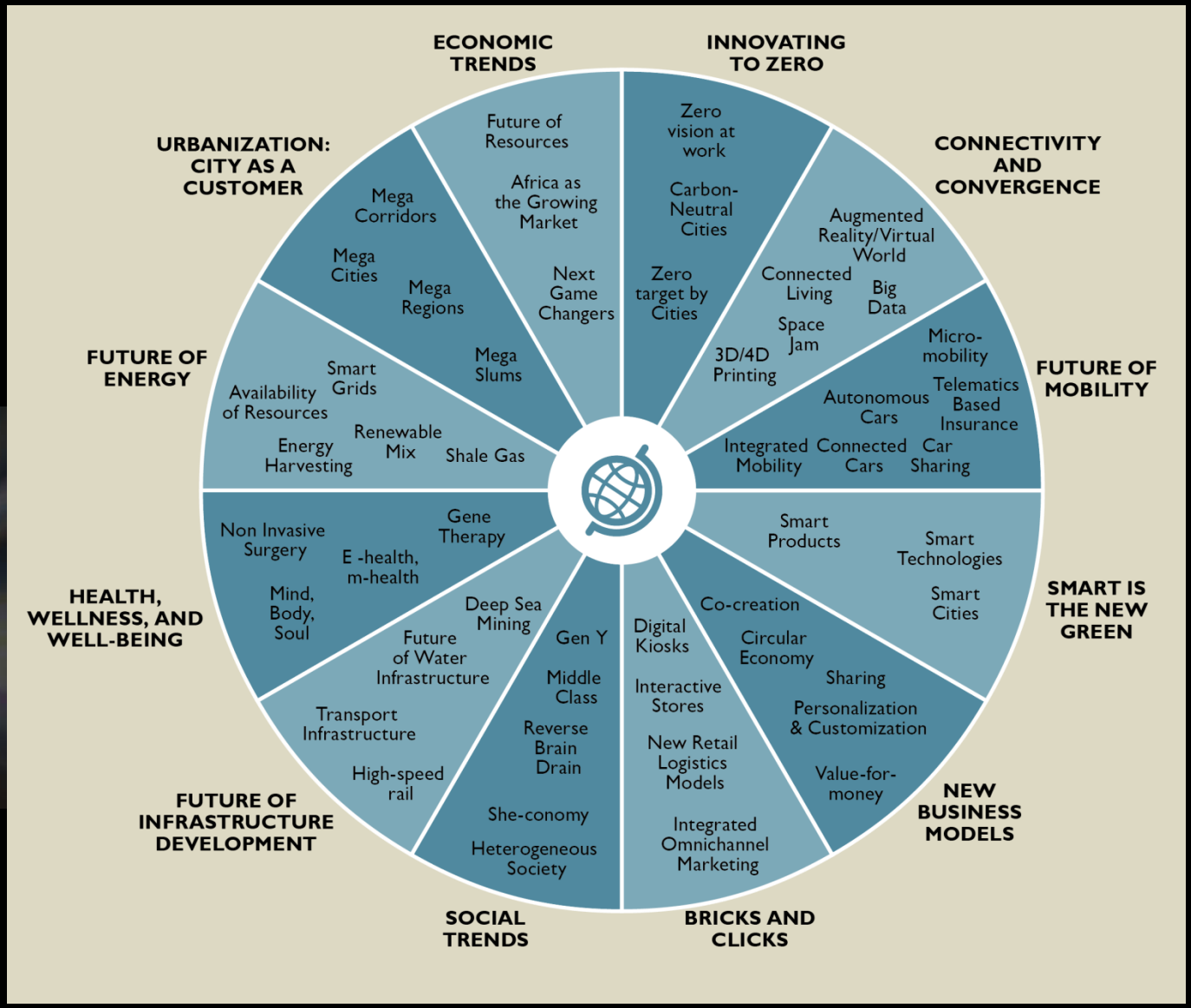
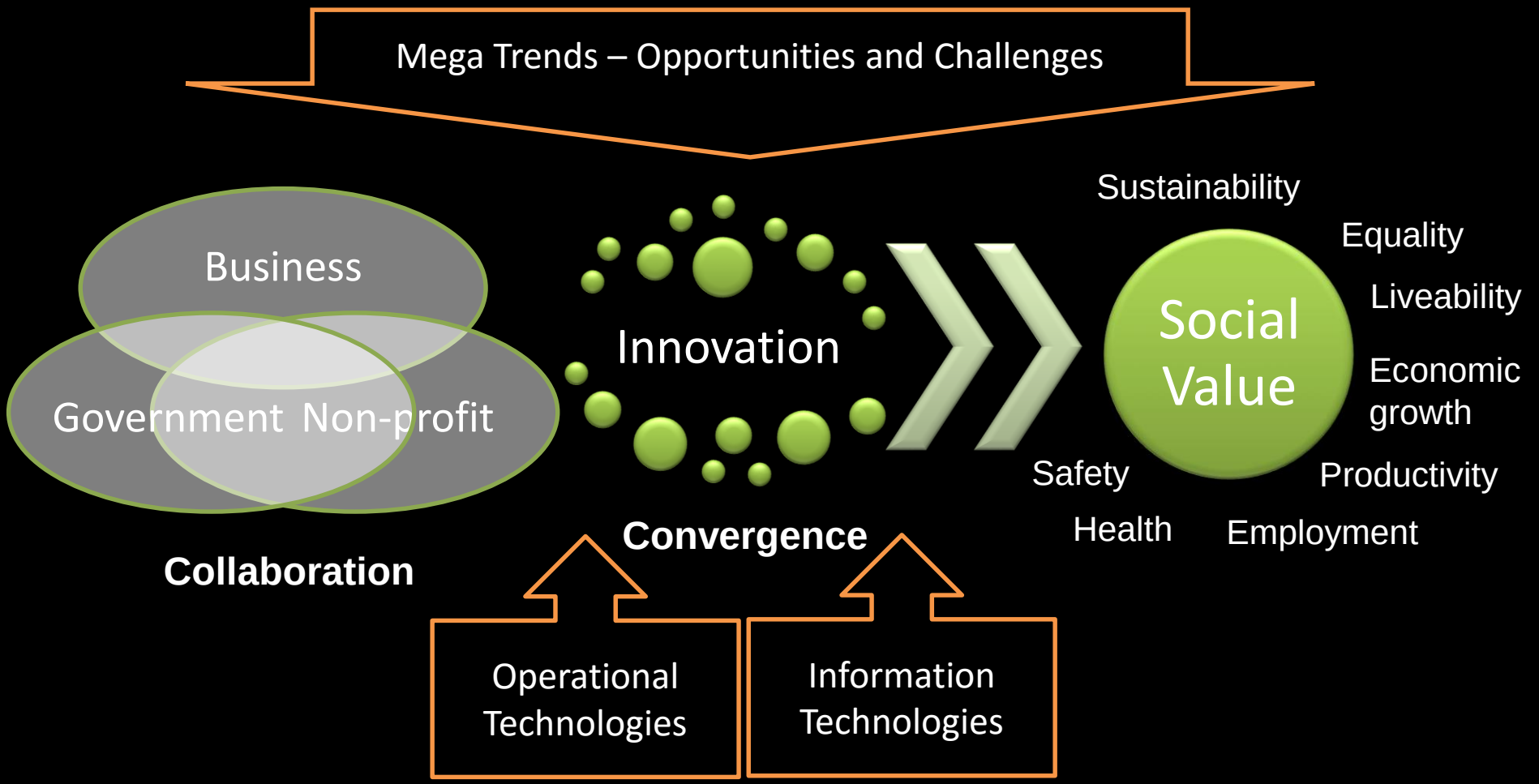
Mega Trends * and Social Innovation



Source: Frost & Sullivan Analysis

*This list is not exhaustive

Mega Trends and Social Innovation



Source: Frost & Sullivan Analysis

From Macro to Micro: Taking Mega Trends from Information to Strategy Implementation

To

Macro

Micro

Mega Trend
Selected trends that impact your business and markets

Analysis of Opportunities and Unmet Needs

Sub Trend
A sub-layer of trends that has a wide ranging impact

Impact on Future Product/ Technology

Impact to Your Industry
Visualising the roadmap of these critical forces through scenario-building and macro economic forecasts

Source: Frost & Sullivan Analysis

Connectivity & Convergence

80 Billion Connected Devices By 2020

10 Connected Devices for Every Household by 2020

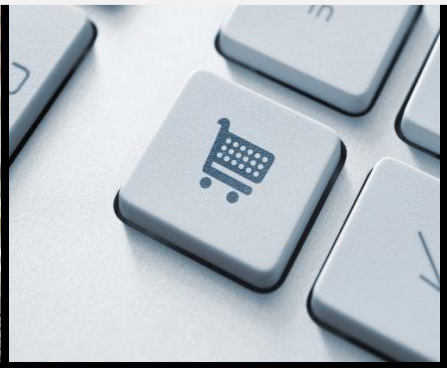
5 connected devices for every user by 2020

5 billion internet users by 2020

500 devices with unique digital IDs (Internet of things) per square kilometre by 2020

Connectivity & Convergence – The Social Innovation Opportunity in Australia

93% of Australian adults use the Internet or own a smartphone



Over $10 billion in retail e-commerce sales in Australia in 2015

69% of Australians active on social media

Australian Internet of Things (IoT) in the Home market over A$1 billion by 2020

Australia ranked 16th out of 143 countries in World Economic Forum's Networked Readiness Index

Driverless trucks
Driverless trains
Automated drilling rigs
Advanced condition monitoring
Remote operations centres

Real time data gathering & analytics
Integrated systems
Smart PPE

Safety
Productivity
Costs

Source: Sensis, PewResearchCenter, eMarketer, WEF, Frost & Sullivan Analysis

Smart is the New Green

Global Smart Cities

Over 26 Global Cities to be Truly SMART Cities in 2025 - More than 50% of Smart cities of 2025 will be from Europe and North America

Selected Smart Cities in 2025

Source: Forbes Smart City List, Innovation City Index, Specific Smart Project Websites for Each City, Frost & Sullivan

Smart is the new Green – The Social Innovation Opportunity in Australia

- In Australia, urban population as a percentage of total is amongst the highest globally (~90%).
- Populations in state and territory capital cities projected to more than double from 2011 to 2061.

Buildings account for almost one quarter of Australia's emissions.

Prefab
Shell efficiency
Building Energy Management Systems
Smart grids
Smart lighting
Solar PV & Battery Storage

High performing buildings can deliver almost $20 billion in financial savings by 2030; apart from quality of life and productivity improvements

Source: ABS, ASBEC, ClimateWorks, Frost & Sullivan Analysis

Innovating to Zero

Examples of Innovating to Zero at Work

Zero Papers (Paperless Meeting rooms using Haptics/Multi-touch)

Zero Emissions, Zero Energy Losses

Zero Accidents (Zero Occupational Hazards)

Zero Time to Business Incubation

Zero Delays in Delivery

Zero Client Complaints

Source: Frost & Sullivan Analysis

Innovating to Zero – The Social Innovation Opportunity in Australia

- 'Zero coal' scenario in South Australia – opportunities and challenges
- From now to 2030, cumulative abatement potential of over 12 MtCO2-e can arise from optimising Australian building performance using data management systems
- Commercial Building Disclosure energy efficiency scheme – mandatory disclosure threshold lowered from 2,000 sqm to 1,000 sqm

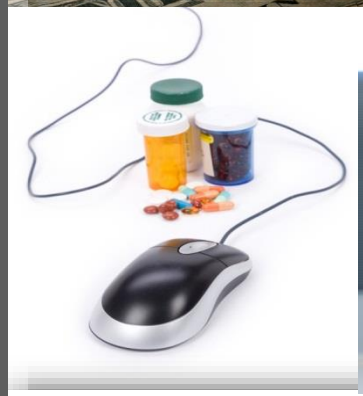
Integrated Solar PV & Battery to reach 3.8 GW installed capacity in 20 years

- 5 new wind farms and 8 >1 MW solar farms completed in 2015
- Rooftop solar power passed a total of 5 GW capacity in early 2016
- Cost of large-scale solar power in Australia has declined from $200/MWh (2013) to less than $130/MWh today

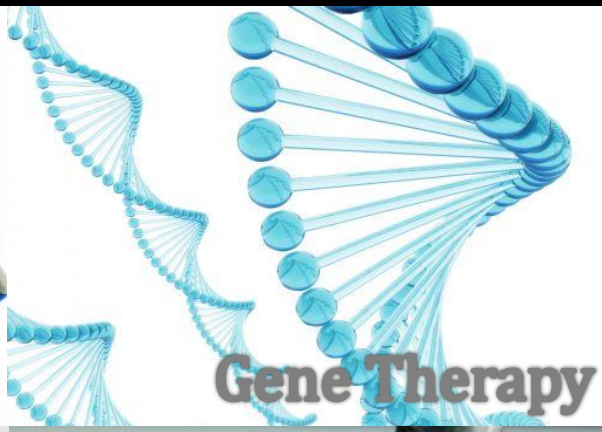
Renewable energy accounted for 14.6% of Australia's electricity in 2015

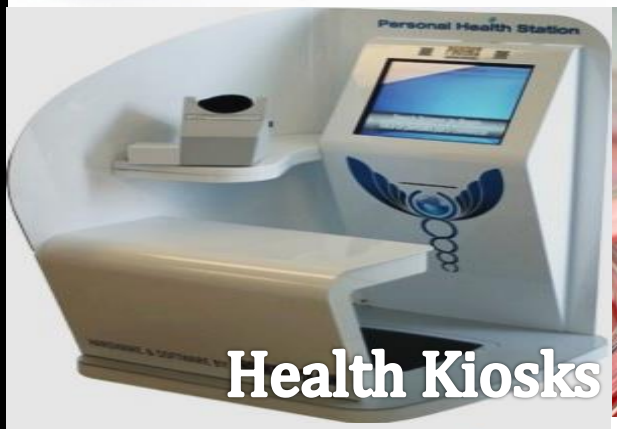
Source: AEMO, ARENA, Energetics, Department of the Environment, SafeWork Australia, Frost & Sullivan Analysis

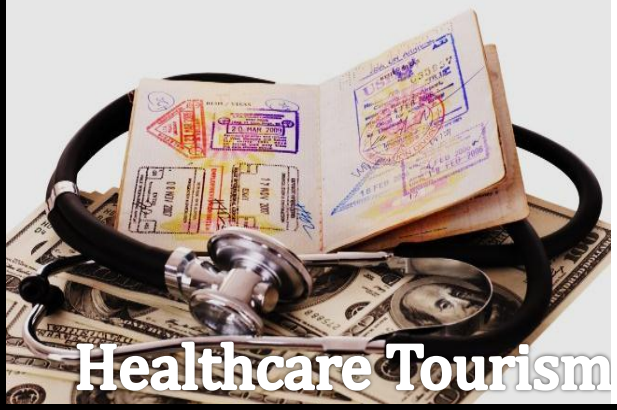
Health, Wellness and Wellbeing



Future of Health, Wellness and Wellbeing







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Health, Wellness & Wellbeing – The Social Innovation Opportunity in Australia

- Population 65 years and over to increase from 14% (2012) to 22% (2061).
- Half of all Australians suffer from a chronic disease. ~20% affected by at least two.
- 90% of Australians willing to share their de-identified health data to advance medical research and improve patient care.

Australia's first large-scale trial of telehealth shows that it could save up to $3 billion a year for the nation's healthcare system.

Patient Admission and Prediction Tool (PAPT) developed by Australian eHealth Research Centre, Queensland Health, Griffith University and Queensland University of Technology, now used by over 30 hospitals in Queensland, with a 90% accuracy in forecasting bed demand (through analysis of hospitals' historical data).

Reduced wait times, improved care, more efficient bed management, staff resourcing and surgery scheduling.

Source: ABS, AIHW, CSIRO, Research Australia, Frost & Sullivan Analysis

The Future of Mobility

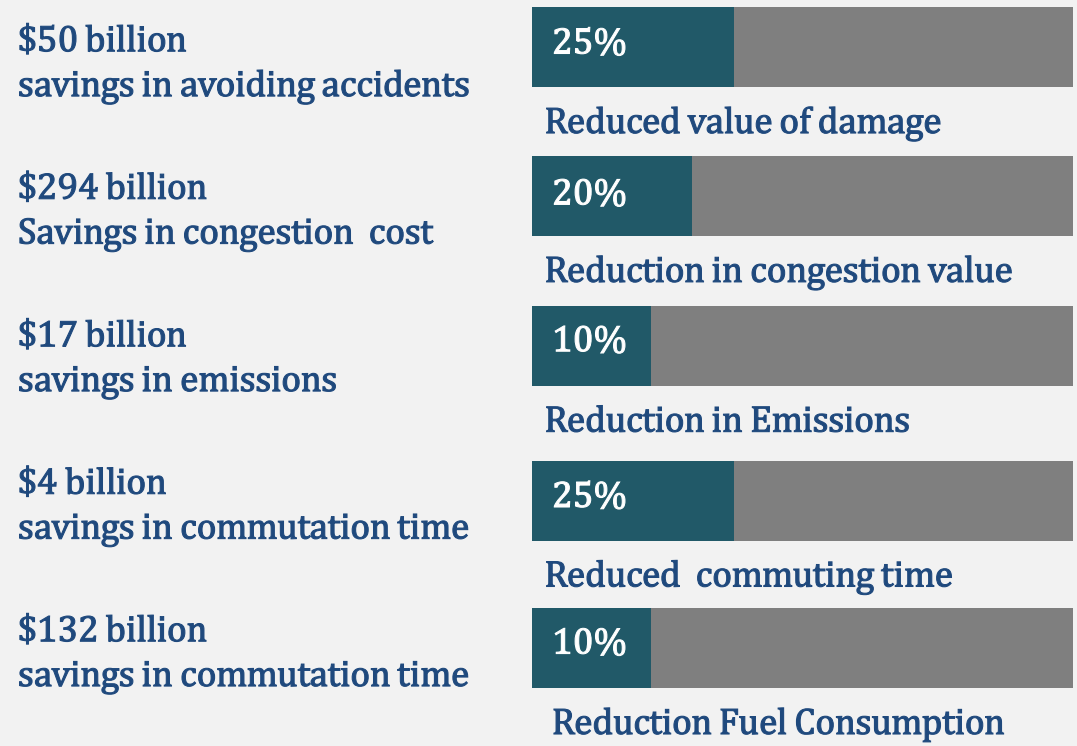
Social Innovation in Mobility – The Value at Stake

Estimated Value of Intelligent Mobility Infrastructure Market (IT Solutions)

$58 Billion

+

Estimated Value in Savings **$497 Billion**



= $555 Billion value at stake

The Future of Mobility – The Social Innovation Opportunity in Australia

- Passenger travel in Australian cities grown almost ten-fold over last 70 years
- In Australia's capital cities, the avoidable social cost of congestion ~A$16.5 billion in 2015. To rise in a 'business-as-usual' scenario to A$30 billion by 2030.
- A quarter of Australian commuters travel for 45 minutes or more one way to work.

Road and rail freight task projected to increase by 86% by 2031.

- Cooperative Intelligent Transport Initiative (CITI) Illawarra, NSW and Melbourne, Vic
- Collision Avoidance trial for O-Bahn buses, Adelaide, SA
- Freight Vehicle Priority Trial, Sydney, NSW
- Addinsight – Smartphone App and Incident Detection System, SA

Safer, more efficient and environmentally sustainable transport

Source: BITRE, ITS Australia, Frost & Sullivan Analysis

So Where Will You Grow?