



Digital Economy and Regional Futures:
Tasmanian Regional Future Foresight 2014-2015

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Digital Economy and Regional Futures research project

Purpose

The Digital Economy and Regional Futures (DERF) is a Institute for Working Futures Pty. Ltd. industry research project. The focus is on identifying, planning and executing major transformations in rural and regional areas. A particular focus is on the opportunities created through use of new and smart technology in the delivery of remote services (health, education and utilities), and in industries such as manufacturing, agriculture, transport and complex supply chains. A particular emphasis is placed on transformational leadership, workforce capability planning, breakthrough approaches to skills development and rapid innovation.



(<http://www.derf.com.au>)



Foresighting

What?

Foresighting is a participative approach to creating shared long-term visions that inform short-term decision-making processes (<24 months). Such an approach can support long range forecasting by providing more tangible deliverables that generate immediate wins or 'stepping stones' to the desired future state.

Why?

Foresighting allows action to be based on tangible goals and delivering early wins that may be part of a vision that is up to 10 or more years distant.

Attainment of goals will orient policy planning, enable transformation, build critical mass and generate real socio-economic growth for those involved.



Marco environmental drivers shaping Tasmania's options

Virtual world & e-mobility:

We have appreciated the value of knowledge and information, now recent developments have themselves converged. Not only have they individually been disruptive, now trends are accelerating as technologies and developers seize new opportunities, move to the cloud and goods are increasingly sold in the virtual space.

Smarter strategies to deal with complexity and disruptive innovations

Nations seek to become smarter and utilise or sell smart devices, platforms and applications that converge, become smarter, smaller and able to communicate synchronously.

Internet of Things

Our society and economies are changing as the Internet become ubiquitous to our lives. Objects can be identified, located and monitored. Sensors, miniaturisation, wearable computers, and such like beckon an era where technologies are smart and connectivity is constant.

Global race to compete in the digital economy

There is a global race by nations to build the **infrastructure** that enables early advantage in the digital economy and will form the backbone for competitiveness of nations in the 21st century, just as road, rail and utilities networks did for the industrial economy of the 19/20th century.

Social drivers join the economic ones to impel nations to not only achieve quality, high speed connections but the ubiquity of access that ensures everyone can participate

Personalisation

Markets are being build on delivering to individuals what they want, when they want it to their personal preferences.



Hybrid and new fuels and vehicles:

The push is increasing whereby vehicles are becoming smarter, manufactured differently and using different fuel types.

Trade regulation and market access

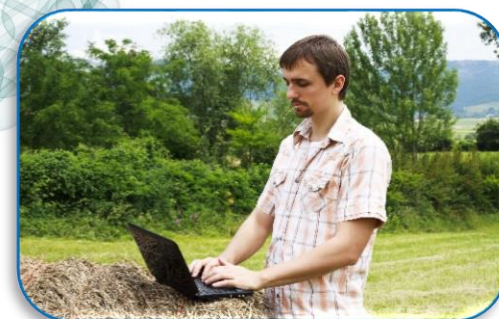
Open access, free trade agreements (e.g. China). But issues relating to increased competition in mature industries to create future opportunities in emerging industries and to sell primary and raw materials to more competitive countries with sustainable competitive advantage due to labour supply, costs and market proximity.

Skills supply and workforce capabilities

A new social and economic divide is emerging between nations and regions. Without access to higher order knowledge and trade skills new industries cannot survive and old industries cannot transform. The new challenge is to bridge the skills divide (including digital divide) through provision of more innovative education and skilling strategies backed by ways to stop the 'brain drain'.

Mega cities and regions

Urbanisation is occurring at great pace. Cities over 10 million have increased by 20% in 5 years. Such cities are increasingly centred in a region or in a 'trade corridors' in Asia or Middle east.



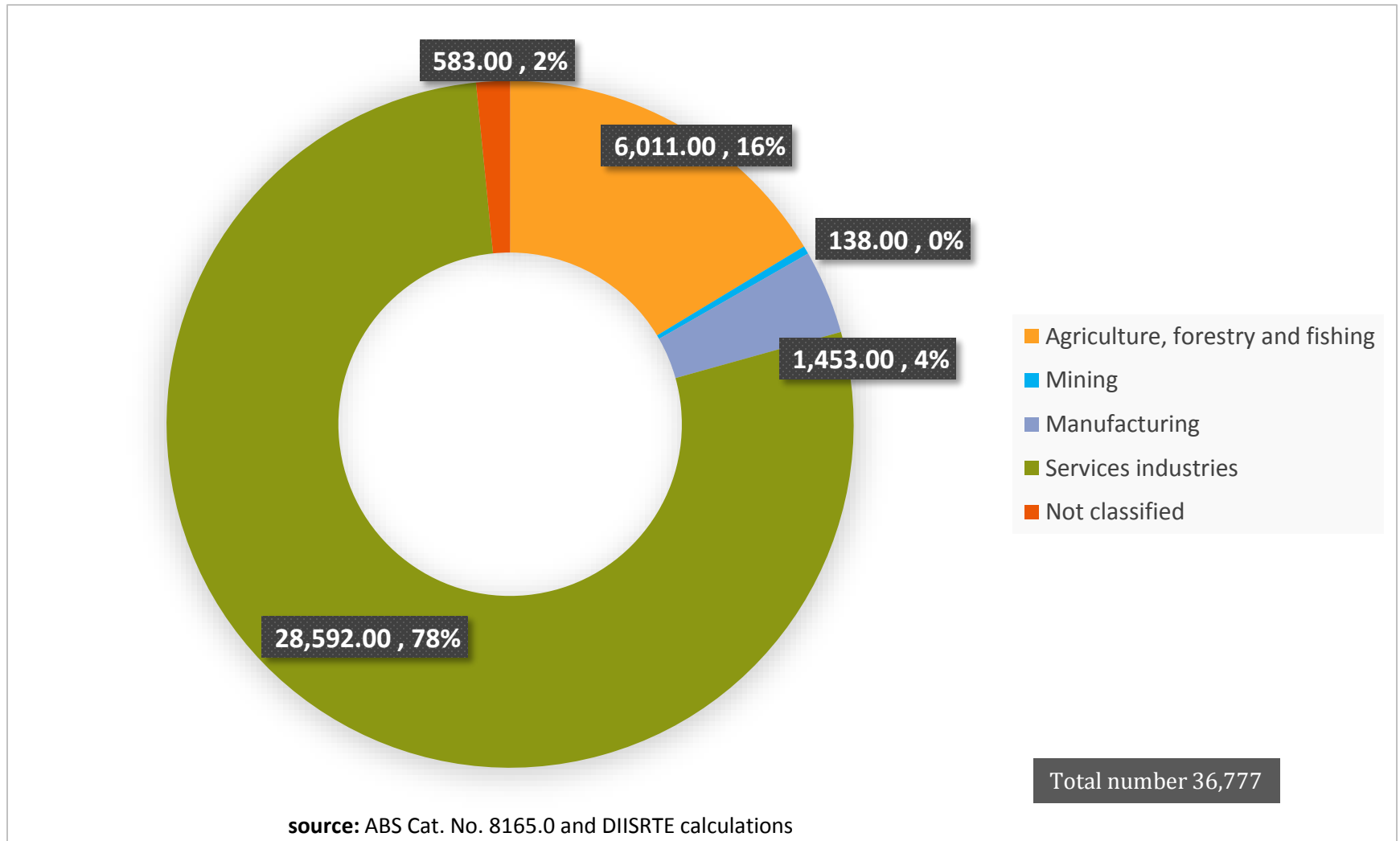
Foresighting messages: Tasmania

1. **Small business mindset:** Tasmanian economic future is heavily dependent on small businesses (63% of employment – largest in Australia) where owners and operators mostly do not perceive themselves as participants in a global market (ANZ Bus Survey, 2013).
2. **Small export base:** Because of the small base for export oriented, larger businesses, Tasmania and employment of Tasmanians is very vulnerable to downturn in global markets or competitive forces affecting mature industries: i.e. mature industries employ more but are less sustainable
3. **Stalled employment growth:** Where Australia's economic opportunities lie isn't where Tasmanian businesses are growing fast or employing more workers comparative with 2010 data or current performance of all other states
4. **Need to leverage strengths in sustainable global markets:** Most emerging and new business opportunities may grow fast and create economic advantage, but their employment to income ratio in Tasmania is historically below that of mature industries
5. **Need to stimulate new businesses:** In a regional economy with limited availability of funds or 'export market opportunities' tech business and start-up opportunities can be fostered through government targeting select public sector activities where ICT can stimulate employment, cost reduction and productivity growth (e.g. agribusiness, education, manufacturing, health, utilities, freight,)
6. **Need to de-mature:** Select mature industries have great potential to leverage digital disruption to improve competitiveness, reduce costs and stimulate growth

Let's flesh this out more and talk about the George Town region.....



(1) Tasmanian small business numbers by operation/ industry, 2010-11

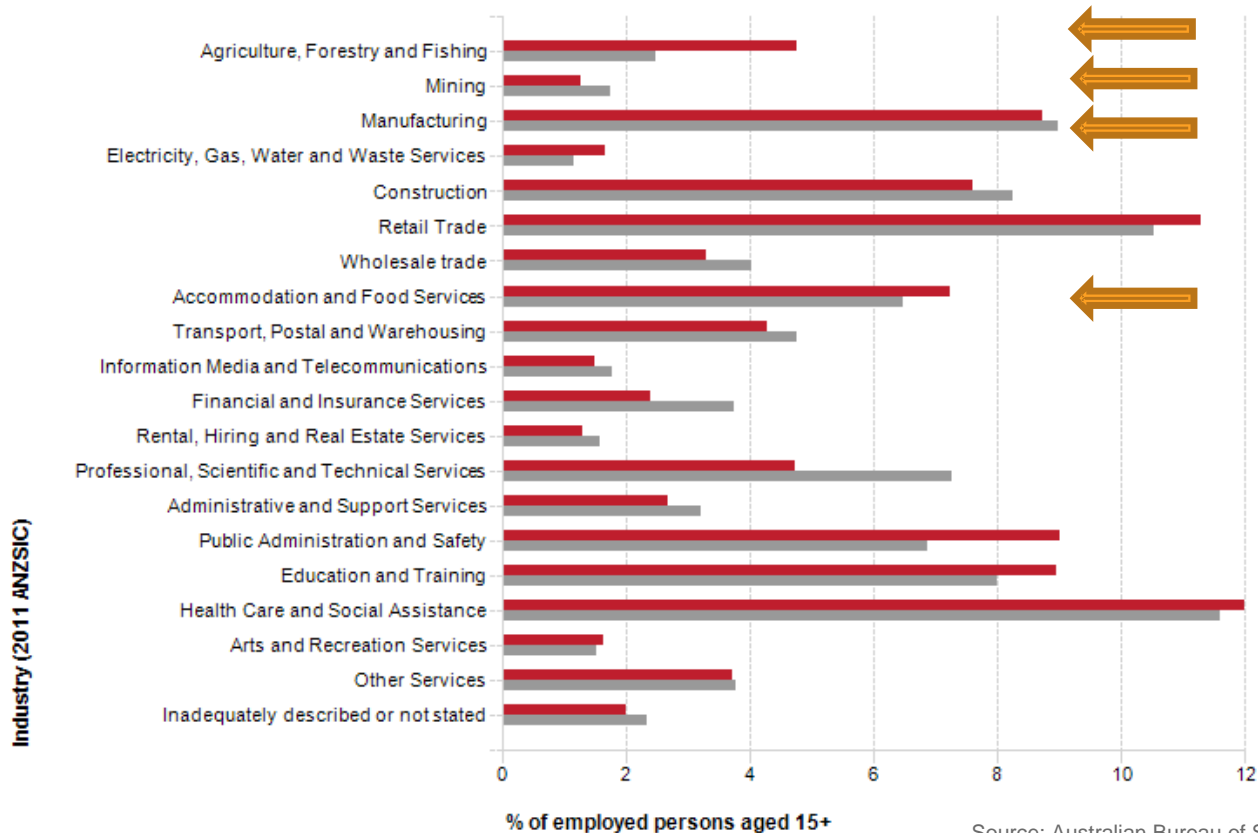


(2) Tasmania: Industry sector by export and employment, 2011

More than any other state Tasmania is reliant on traditional, 'older' manufacturing and primary industries for both employment and export earnings

Total employed persons

■ Tasmania
 ■ Australia
 ← Major exporters



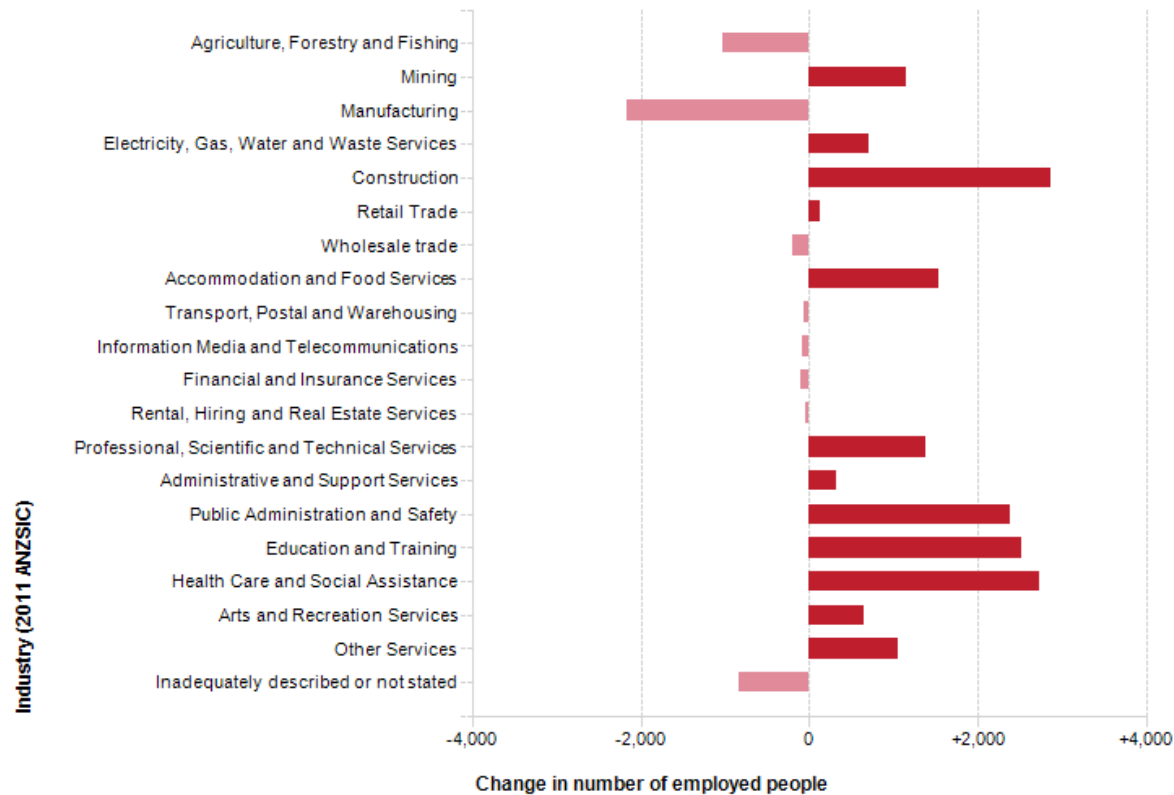
Source: Australian Bureau of Statistics, Census of Population and Housing, 2011 (Usual residence data)



(2) continued....Change in industry sector of employment, 2006 to 2011

This makes Tasmania, and regions vulnerable to global markets where competition and economic downturn impact business success and employment

Tasmania - Total employed persons



Source: Australian Bureau of Statistics, Census of Population and Housing, 2011 (Usual residence data)



(3) Growth and employment in Tasmania go hand-in-hand; for good or ill: October 2014

*Of 419,800 people living in Tasmania of work age only
238,600 (61%) were employed of which only 150,900
were employed full time*

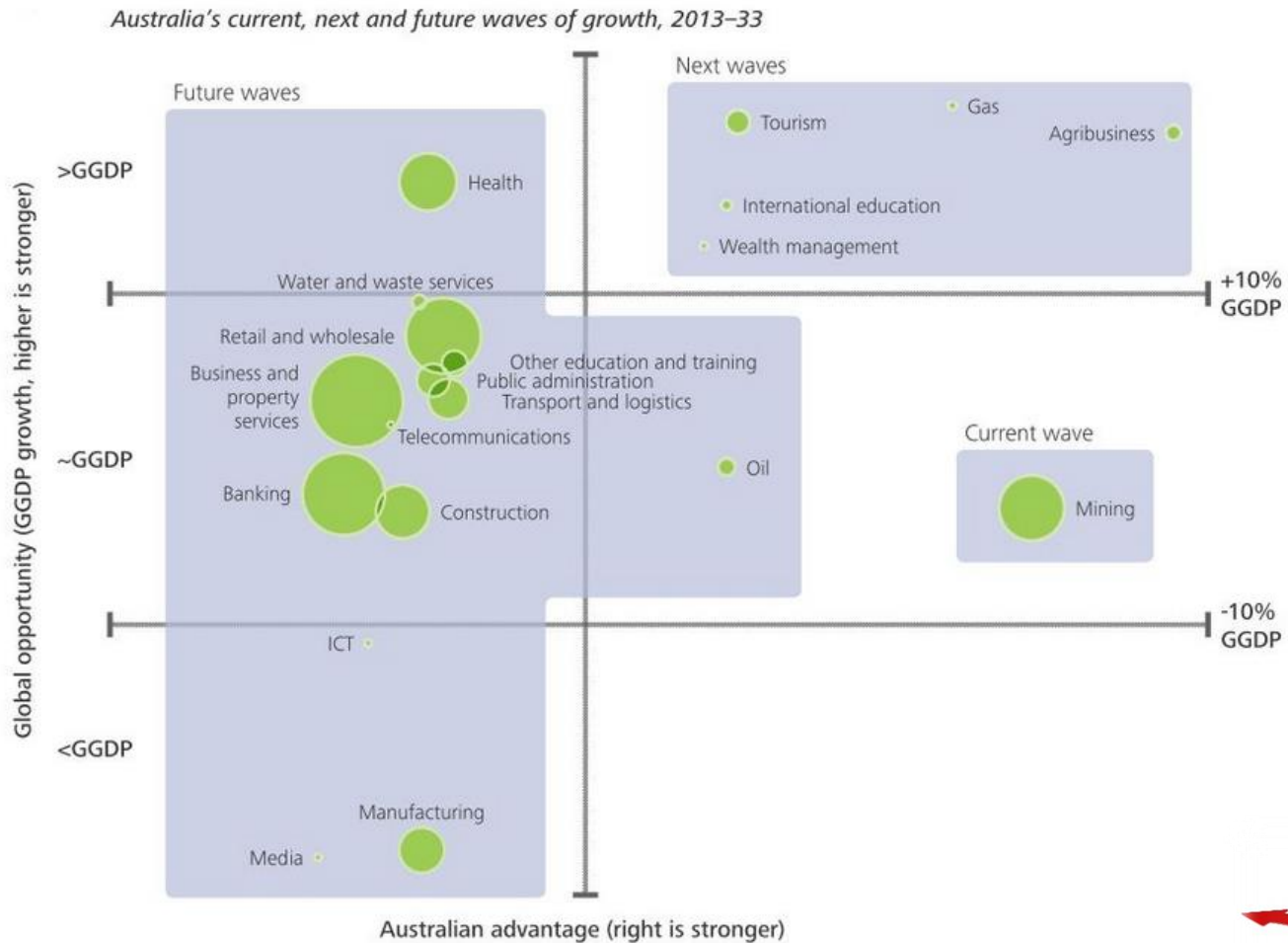
18,400 people living in Tasmania were unemployed (7.2%)

*11.3% of 15-14 year olds are reported as unemployed but
unemployment (looking for full time work) reached 30% for the first time*

From October 2011 to October 2014
Tasmania's total labour force increased by
100 jobs



(4) Positioning Australia for global growth and opportunity



Source: Deloitte Access Economics

Deloitte, October 2013. *Super-growth sectors worth \$250b to build Australia's 'lucky country'*, Media Release.



Tasmanian Economic Capacity Building within a National Strategy: The priority industry development opportunities

'Graft" new technologies onto existing industry/ business	Driving emerging and new businesses
<ol style="list-style-type: none">1. Agribusiness/ agrifood2. Tourism3. Health and aged care (especially home care)4. Mining and gas <p>and</p> <ol style="list-style-type: none">5. Manufacturing & Utilities*	<ol style="list-style-type: none">A. Start-upsB. New ManufacturingC. International Education: in particular online and flexible international education and recognition servicesD. Transport: safety, security, port management systems, maintenance management systems, freight tracking and e-logistics systemsE. Data analytics: Date storage; big data; and online and social network data collection, analysis and reportingF. Micro-technologies: Sensors, nanotechnology, telemetry/e-logistics tracking, and data processingG. ICT: telepresence and digital call centres; creative and digital media; data analytics; network engineering, applications and software development.



Tasmanian industry future industry global growth opportunities

Opportunities to leverage new technologies in Tasmanian industries seem to fall into the following ranked order:

1. Agrifood **
2. International education and training**
3. Health
4. Manufacturing, including new manufacturing, precision engineering, food production and processing **
5. Hospitality and Tourism**
6. Creative and digital media
7. Transport and logistics
8. Financial services

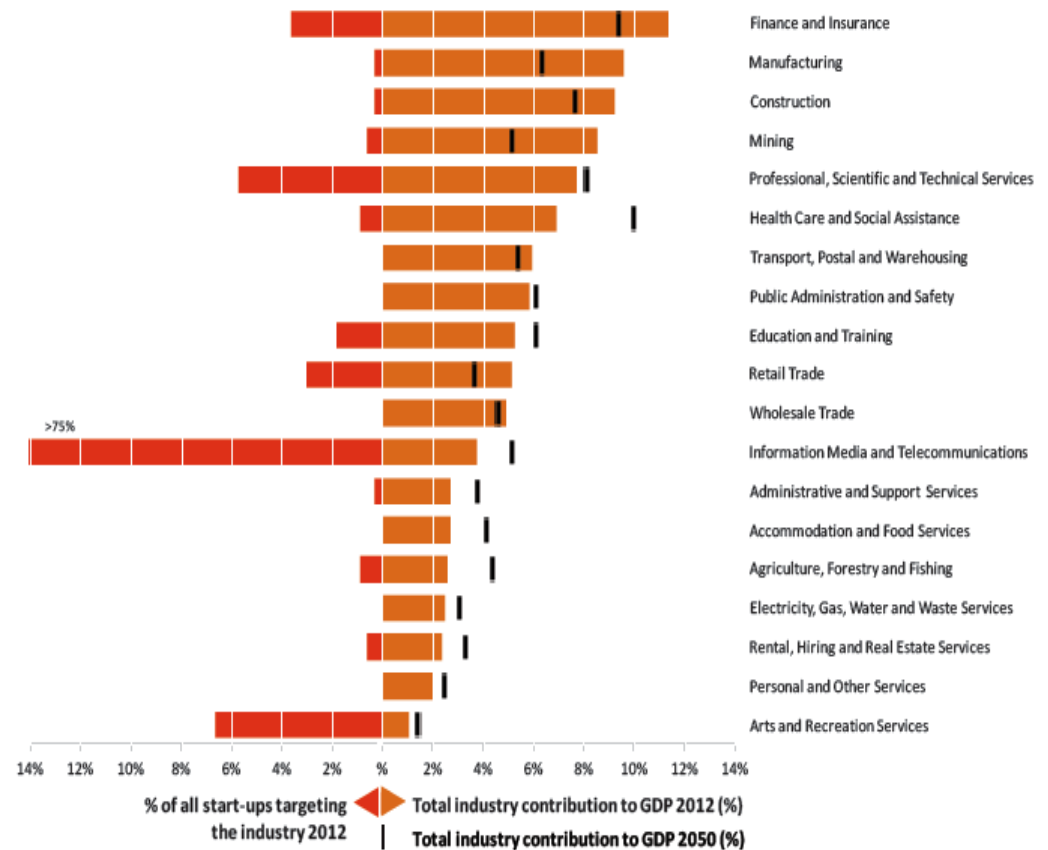
** With niche strength to participate in global growth opportunities



(5) Target industry for Australian start-ups compared to industry size

The importance of stimulating innovation is most obvious in start-ups. New businesses deploying new technology offer a significant opportunity for regional economies such as Tasmania.

Not only does it offer local users early access to new technologies and market access for other individuals and companies, start-ups hold potential for generating new economic activity and income: estimated to be \$109b (or 4% of GDP) for Australia by 2033.



Source: PwC analysis and IBM (2012) A snapshot of Australia's digital future to 2050

Source: PWC (2013), *The Startup economy: How to support tech startups and accelerate Australian innovation*, Google Australia, Sydney.
Bowles, M. 2014, *ICT State of the State: Tasmania*, ACS, Sydney.



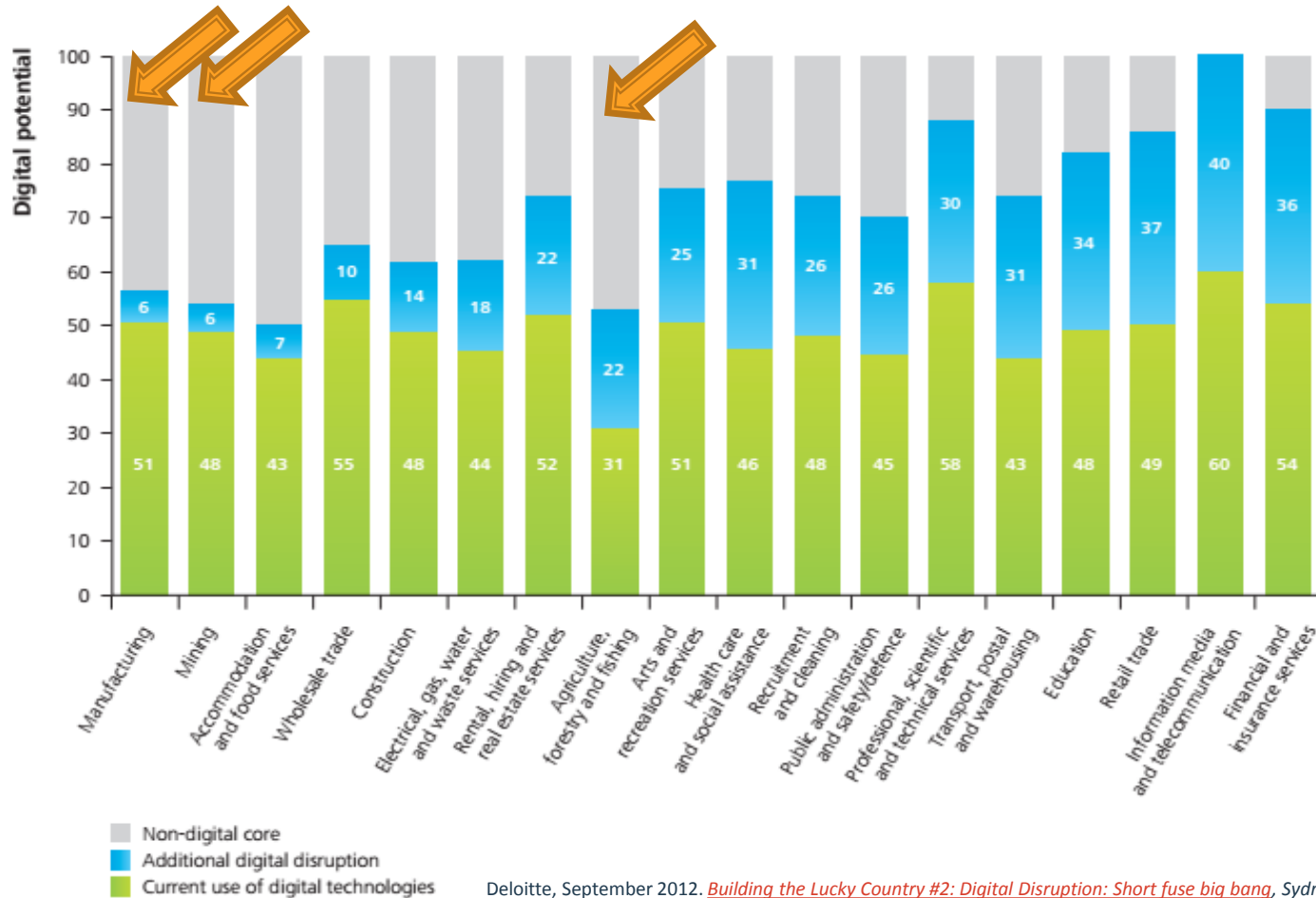
(6) Dematuring: Making mature industries more competitive

- Deploying digital innovations to enhance operations and market access
- Shift paradigms to new customer segments
- Deploy new production technologies
- Look to lateral markets (adjacent market opportunities, old competencies, new markets)
- Pursue regulatory reform or relief to ease global competitiveness
- Improve inward supply and sourcing logistics and supply chains and recalibrate distribution (outward to market)



Dematuring old industries: Where digital disruption and innovation can help mature industries

There remains significant opportunity to utilise improved technology and systems to improve mature industries. They represent high potential markets for regional entrepreneurs and existing and start-up tech businesses.



Deloitte, September 2012. *Building the Lucky Country #2: Digital Disruption: Short fuse big bang*, Sydney, page 8.



Why demature?

Rejuvenating older industries can delay or even indefinitely defer the massive, negative wave that will occur when closure precedes establishment of viable, competitive new industries.

Dematuring recognises:

1. Emerging and new industries may offer growth but there is usually a lag to sustainable employment creation
2. Structural transformations take time
3. Core competence of workforce is misaligned and reskilling takes time and commitment
4. Economic contribution may shrink but total removal can negatively impact a regions GDP (e.g. Tasmania or George Town)
5. Mature industries typically are the heart of a region (examples we can reference include regional impact of closing paper mills, coal mines, manufacturing plants, smelters, etc.)



Dematuring smelter and related businesses

The core focus on value-adding R&D and deployment of innovations should be improving:

- Net Smelter Returns (total revenue – production costs)
- Reduction of Green House Gas Emissions
- Power utilisation
- Industrial engineering
- Supply chain and logistics partnerships and efficiencies
- Co-locate new or competitive new businesses (cluster effect)
- Global alliances (regional)



George Town business attraction checklist

- Leverages existing strengths (industrial, community, etc.)
- Compatible workforce and skill needs
- Export potential
- Growth market
- High potential to do R&D or innovate to improve global competitiveness
- Retain, attract or stimulate new business opportunities



A cluster example: Ship lift in a Bell Bay maritime services zone

Fast facts:

- Possible \$30m investment
- 230 jobs construction phase
- 24 direct & 120 indirect jobs
- ~\$15m p.a. income
- Business attraction (e.g. RAN maintenance contracts)
- Business & UTAS opportunity



- ✓ Leverages existing strengths (industrial, community, etc.)
- ✓ Compatible workforce and skill needs
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Globalisation: Regional alliances across nations form partnerships to reach markets

Projects like ship maintenance and engineering attract global opportunities and potential alliances.

Regional partnerships that span countries will promote knowledge sharing, mutual strategic advantage and global market access (suppliers, manufacturers, and sellers). They form a global network of partners.

Country partnerships providing:

- ✓ Local promotion and cooperation
- ✓ Meet ups and local experts, R&D, and business support
- ✓ To market plans and mutual gains



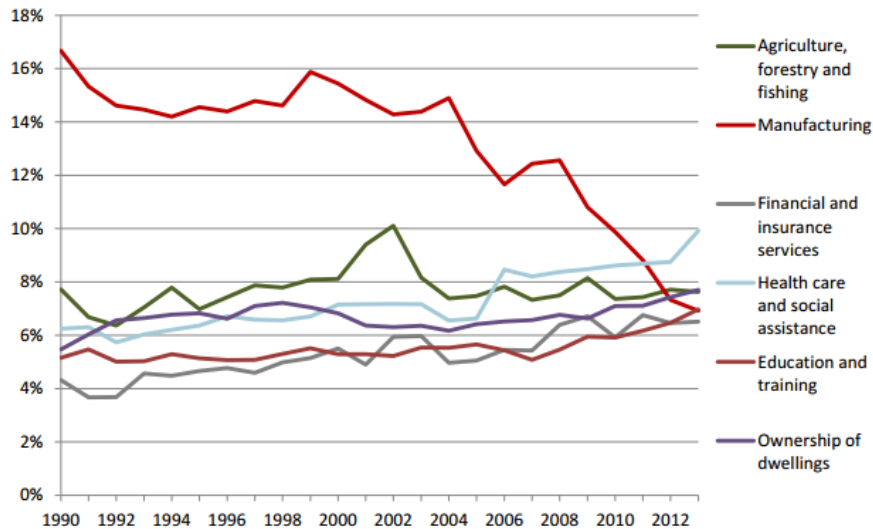
Tasmania

STATE GROWTH: OTHER NUMBERS

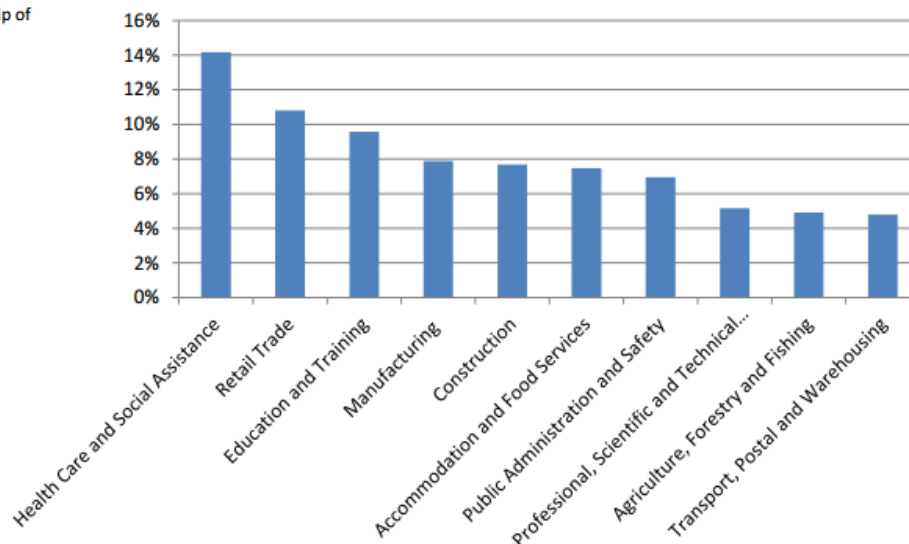


Tasmanian industry opportunities: Where is employment and Gross State Product grow occurring in mature industries?

Tasmania's top six industries at 2013 as a proportion of GSP, 1990 to 2012



Tasmanian employment by industry, 2013 (%)

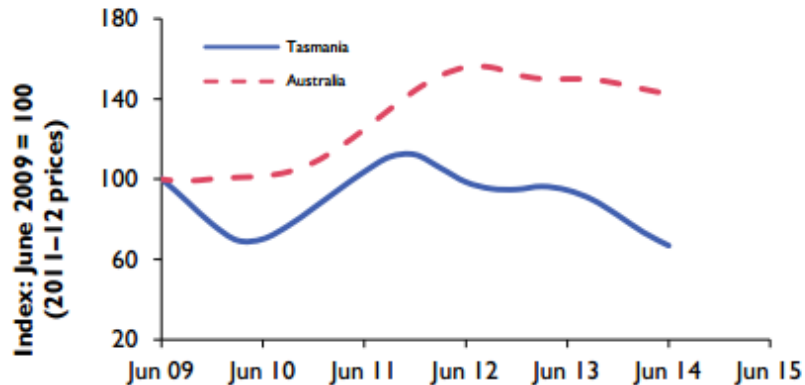


Source: ABS, 2013, *Labour Force, Australia, Detailed, Cat. No. 6291.0.55.003* and Macintosh, A, December 2013, *Chipping away at Tasmania's future*, The Australian Institute, Institute Paper No. 15,



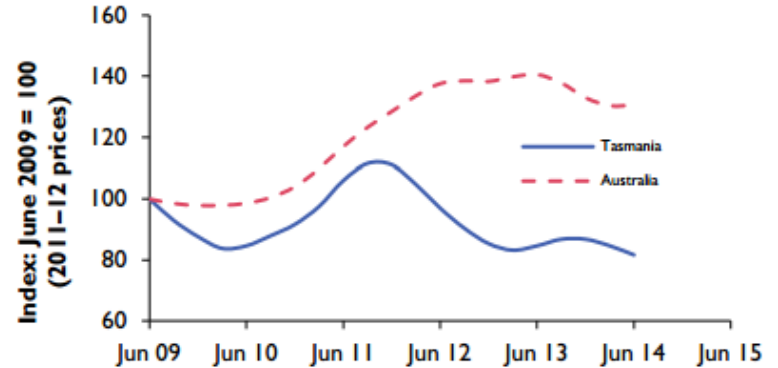
Real activity and growth (November 2014)

Private new capital expenditure, real trend data



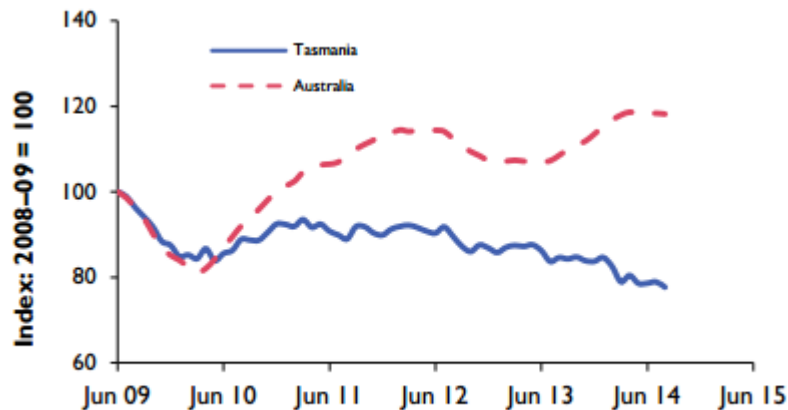
SOURCE: PRIVATE NEW CAPITAL EXPENDITURE, ABS CAT NO 5625.0: TABLE 5C

Business investment, real trend data



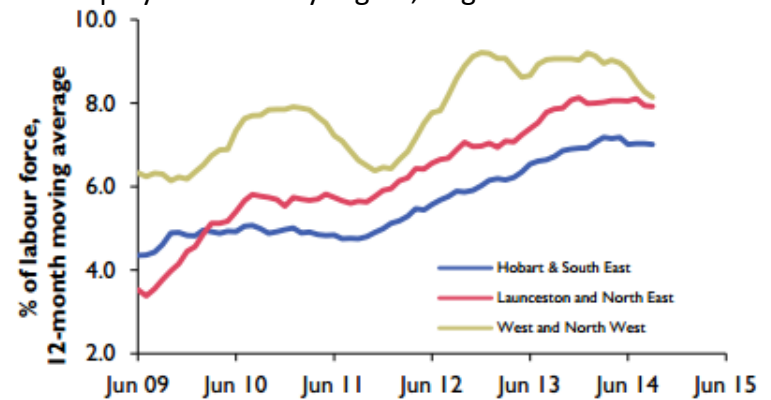
SOURCE: AUSTRALIAN NATIONAL ACCOUNTS: NATIONAL INCOME, EXPENDITURE AND PRODUCT, ABS CAT NO 5206.0: TABLES 2, 27

Exports (value), nominal original data



SOURCE: INTERNATIONAL TRADE IN GOODS AND SERVICES, ABS CAT NO 5368.0: TABLE 15A

Unemployment rate by region, original data



SOURCE: LABOUR FORCE AUSTRALIA: DETAILED, ABS CAT NO 6291.0.55.001: TABLE 16

Source: Tas. Dept. of Treasury & Finance, Economic Statistics Summary, 4 November 2014)

