



# HUNTER 2014 INNOVATION SCORECARD SMART HAPPENS HERE

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# INTRODUCTION

The 2014 Hunter Innovation Scorecard makes the link between Innovation and International competitiveness by looking at The European Innovation System. This invaluable comparison gives the Hunter a global benchmark and a blueprint for how to consolidate and improve.

Innovation is crucial to the Hunter region's future prosperity. In an increasingly globalised economy the ability to compete is based around taking advantage of new opportunities and continually refining systems.

Advancing innovation in the Hunter is a strategic focus for Regional Development Australia (RDA) Hunter as we work to increase the Hunter's competitiveness in the world economy.

We understand that innovation underpins economic development and jobs growth and is a vital part of our goal to maintain the Hunter's position as Australia's largest regional economy.

RDA Hunter facilitates collaboration between enterprise, tertiary education and government to ensure knowledge sharing, technical development and a positive attitude to new ideas – key principles for an innovative business environment – through its Hunter Innovation Scorecard, ME Program and support of the Hunter Innovation Forum.

By benchmarking against the world's best innovators, the Hunter can forge a path for the future that is globally competitive. The European

Union (EU) recognises that innovation improves economic performance and employment opportunities – demonstrated by its ongoing multi-billion Euro investment in innovation programs. It also measures the innovation performance of its members with the Innovation Union Scoreboard and the Regional Innovation Scoreboard.

RDA Hunter is applying the EU's lessons in the region by producing the Hunter Innovation Scorecard. The 2014 Scorecard demonstrates the region's strong innovation performance and compares the Hunter to the EU which operates within a tested innovation system and framework.

Endorsed by State and Federal government, the 2014 Hunter Innovation Scorecard highlights the Hunter's world class logistics supply chain and features a case study on Hunter Valley Coal Chain Co-ordinator (HVCCC) – emulated internationally for its collaborative model.

RDA Hunter has engaged with a wide range of stakeholders in developing the 2014 Hunter Innovation Scorecard. It plays a key role in promoting the region's innovation performance and other comparative advantages nationally and internationally.



**MR TODD WILLIAMS**  
Chief Executive Officer  
Regional Development Australia Hunter

“**ADVANCING INNOVATION IN THE HUNTER IS A STRATEGIC FOCUS FOR REGIONAL DEVELOPMENT AUSTRALIA (RDA) HUNTER AS WE WORK TO INCREASE THE HUNTER'S COMPETITIVENESS IN THE WORLD ECONOMY.**”

”

# A MESSAGE FROM THE NSW GOVERNMENT

I am pleased to introduce the Hunter Innovation Scorecard for 2014.

This document provides invaluable information on the Hunter's efforts to drive innovation, which will help secure the region's competitiveness.

The NSW Government recognises the importance of the Hunter. Through our significant investment in the region we are addressing and fast-tracking its infrastructure needs.

The Hunter was the centrepiece of the NSW Budget 2013-14, with innovative projects like Newcastle's central precinct revitalisation and the new light rail line set to secure the city and the region's future.

The NSW Government wants to see the Hunter grow and flourish and we recognise the important role it has to play in the economic future of NSW.

We are building on the region's areas of excellence and competitive advantages, including mining, defence, tourism, agriculture, energy, health and education industries.

We are supporting the Hunter's continued growth and economic development.

Innovation, through industry collaboration, will also help the region achieve this.

The importance of industry innovation cannot be overstated. There is a clear link between innovation and an increase in productivity and economic development.

Through Innovate NSW, a \$6.7 million initiative to increase innovation and productivity in the NSW economy, the NSW Government is helping facilitate collaborative, problem solving partnerships between innovators and businesses.

The Hunter Innovation Scorecard is an extremely useful tool for highlighting the effectiveness of innovation, and I congratulate Regional Development Australia Hunter for their efforts in bringing it together.



**THE HON ANDREW STONER MP**

Deputy Premier and Minister for  
Regional Infrastructure and Services

“ **THE NSW GOVERNMENT  
WANTS TO SEE THE HUNTER  
GROW AND FLOURISH AND WE  
RECOGNISE THE IMPORTANT  
ROLE IT HAS TO PLAY IN THE  
ECONOMIC FUTURE OF NSW.** ”

# A MESSAGE FROM THE AUSTRALIAN GOVERNMENT

The Australian Government appreciates and understands the proud history of Australia's regions, and their contribution to our nation.

One of the most important ways we can secure Australia's future is by ensuring that our regions can meet their full potential in every respect – including as places to live, and as key players in a productive and growing national economy.

Australia's regions have distinct identities and strengths but they are not self-contained. To achieve their full potential, regional Australians must be in a position to focus on what they can best contribute to the nation. They also need to clearly understand where the competitive advantages of their regions are strongest, in both national and international markets. This involves developing an objective self-assessment of regional opportunities – in effect, for regional organisations to arm themselves with a 'prospectus' of valuable regional information and key developments.

This is part of the essential planning needed to support the endeavours of people and organisations within regions, and to attract investment. I also strongly believe that regions which are prepared to innovate and try bold, but well thought through, approaches to difficult challenges will 'make their own luck' into the future.

For all these reasons, I welcome the release of the 2014 Hunter Innovation Scorecard. RDA Hunter remains the only Australian regional organisation that measures and reports on innovation in the

scorecard format. I also congratulate RDA Hunter on improving the already very useful product it launched last year.

The 2014 Scorecard benchmarks the Hunter against the innovation performance of European Union regions – the first time this has been done for an Australian region. Along with other planning tools, this provides a blue-print for increasing the Hunter's global competitiveness. RDA Hunter understands that effective innovation and research is a very strong foundation for creating economic development and jobs. The value of the Scorecard is also enhanced by its case study of the Hunter Valley Coal Chain Coordinator, including the critical role it plays in Australia's international competitiveness.

The Scorecard is an excellent source of information for the Hunter's people and enterprises. It also sends a clear signal to the rest of Australia, and to the world, that the Hunter is a first-class location for investment and business innovation. The Scorecard is delivered to 105 global locations through Austrade and the NSW Government's Trade and Investment offices.

The 2014 Scorecard reflects RDA Hunter's strategic themes of Investment, Infrastructure and Innovation and will help 'dot' these three critical 'I's' for the Hunter.

Congratulations again to RDA Hunter for a great product.



**THE HON WARREN TRUSS MP**

Deputy Prime Minister and Minister for Infrastructure and Regional Development

“ AUSTRALIA'S REGIONS HAVE DISTINCT IDENTITIES AND STRENGTHS BUT THEY ARE NOT SELF-CONTAINED. TO ACHIEVE THEIR FULL POTENTIAL, REGIONAL AUSTRALIANS MUST BE IN A POSITION TO FOCUS ON WHAT THEY CAN BEST CONTRIBUTE TO THE NATION. ”



## **DR GAYE HART AM**

Chair RDA Hunter

### **RDA HUNTER – KEEPING THE HUNTER GLOBALLY COMPETITIVE.**

Innovation drives diversification, flexibility and productivity; innovative businesses are more productive, more profitable and more likely to increase staff, and, innovation is critical to competing with the world's best, both in quality and scale.

RDA Hunter is optimistic about the future of regional Australia. Our priorities for the Hunter are very specifically to encourage investment, improve infrastructure and support innovation. These strategic areas will create jobs in our region, develop the skills of our workforce and enhance national growth.

Regional development is most likely to succeed where robust discussions are informed by good research and the expression of a diversity of opinions and experiences is encouraged. RDA Hunter continues to bring together regional voices, by working across and with all levels of government and local stakeholders in support of the development of the Hunter.

The Hunter Innovation Scorecard is a tangible example of RDA Hunter's commitment to promoting a positive approach to innovation that delivers the conditions to take advantage of the prospects for future prosperity and community wellbeing.



## **2014 HUNTER INNOVATION CHAMPION**

### **DR KIRSTEN MOLLOY**

Chief Executive Officer  
Hunter Valley Coal Chain Coordinator

### **THE HUNTER – A LEADER IN LOGISTICS SUPPLY CHAINS.**

The Hunter region has demonstrated extensive leadership in logistics and supply chain innovation and collaboration. Coal is an important economic contributor to the region and the success of coal chain logistics has been integral to the region's prosperity.

Testament to the success of innovation in the Hunter coal industry is the fact that supply chains globally are observing and moving towards our home-grown model. It is a great pleasure to showcase this local success story as part of Regional Development Australia's focus on innovation in Supply Chain and Logistics.

The Hunter Valley Coal Chain Coordinator (HVCCC) collaboratively plans logistics operations for all supply chain participants. This bespoke industry-funded model enables short and long term planning and coordination in a highly complex bulk supply chain.



## **PROFESSOR CAROLINE MCMILLEN**

Vice-Chancellor  
University Of Newcastle

### **LINKING RESEARCH TO INNOVATION TO DRIVE THE FUTURE.**

In 2014, the Hunter delivers an Innovation Scorecard that reflects the energy, talent and commitment of a remarkable community.

Ranking in Australia's top 10 institutions for research, the University of Newcastle (UON) is proud to support the region's leadership with our world-class researchers translating their discoveries into innovations that deliver improvements and add value to businesses, industries and communities across the world.

The 2014 Hunter innovation Scorecard tells just part of the story of our region's innovation and collaboration. The University's aspiration is to continue working with partners to translate our world-class research into high value innovation with impact, that delivers tangible benefits to our communities and beyond.

# METHODOLOGY

**A SURVEY WAS DEVELOPED THAT WAS BASED ON QUESTIONS ASKED IN THE EUROPE-WIDE COMMUNITY INNOVATION SURVEY.**

## **EU BENCHMARKING SURVEY**

The survey asked for information about innovation across three years (2011, 2012 and 2013) through new and improved processes, distribution processes, collaborations, as well as changes in business structures, management and marketing practices. The survey also asked businesses about the areas in which they invested to support innovation, the drivers to innovate, the markets for their business as well as sources of financial support for innovation.

RDA Hunter selected questions from the European innovation survey to ask for responses from Hunter businesses. Benchmarking on the specific areas of innovation covered by the EU and Hunter surveys is based on the same questions to ensure results are comparable.

\*RDA Hunter acknowledges the professional support provided by Hunter TAFE in the conduct of this survey.

## **HUNTER BUSINESS SURVEY – TIME SERIES**

The Hunter Research Foundation (HRF) time series data of business innovation provides a valuable head start for our efforts to better understand the region's innovation. Surveys conducted by HRF track business innovation for the Hunter across time. Now we can start to see our performance against world's best practice through benchmarking the Hunter Region against European Union (EU) Regions.

**PAGES 7 – 10 PRESENT THE RESULTS OF THE HUNTER COMPARISON OF PERFORMANCE IN FOUR INDICATOR AREAS OF INNOVATION AGAINST THE 190 REGIONS OF THE EUROPEAN UNION**

# HOW WE COMPARE TO THE EU

Last year's Hunter Innovation Scorecard highlighted the importance of benchmarking innovation against other regions.

It is crucial to have an understanding of how you are performing against best practice. This information is paramount to not only see where you rank but to also guide improvement.

We have chosen to highlight three indicators of innovation activity against the EU in this year's scorecard. As this is the first time in Australia this level of analysis has been undertaken it is difficult to make broad assumptions about the Hunter's performance as a whole. However this work provides valuable information on implementing innovations in processes and methods, investing in future innovation and collaborating; areas where we perform well and areas where we can improve.

A review was undertaken to discover how different nations, organisations and researchers approached the task of measuring innovation as well as the context for these endeavours.

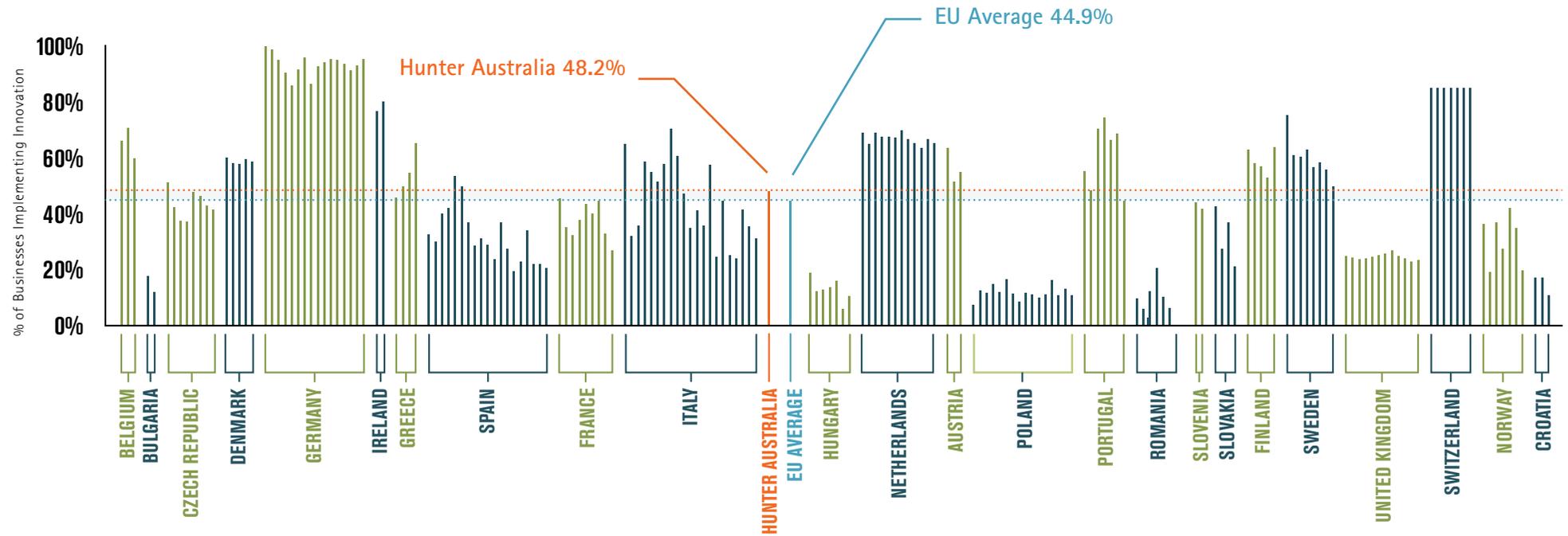
## WHY THE EUROPEAN UNION?

The EU Innovation Scoreboard and Regional Scorecards were identified as exemplars against which to benchmark Hunter innovation due to:

- The detailed policy context in which innovation is positioned in the EU;
- An accessible record of the questionnaire used for the Community Innovation Survey (CIS);
- Published data that indexes 190 European regions on an innovator continuum; and
- Road maps and strategies to set targets that will improve performance in this area.

# RESULTS IMPLEMENTING INNOVATION

## INTRODUCING NEW OR SIGNIFICANTLY IMPROVED METHODS AND PROCESSES

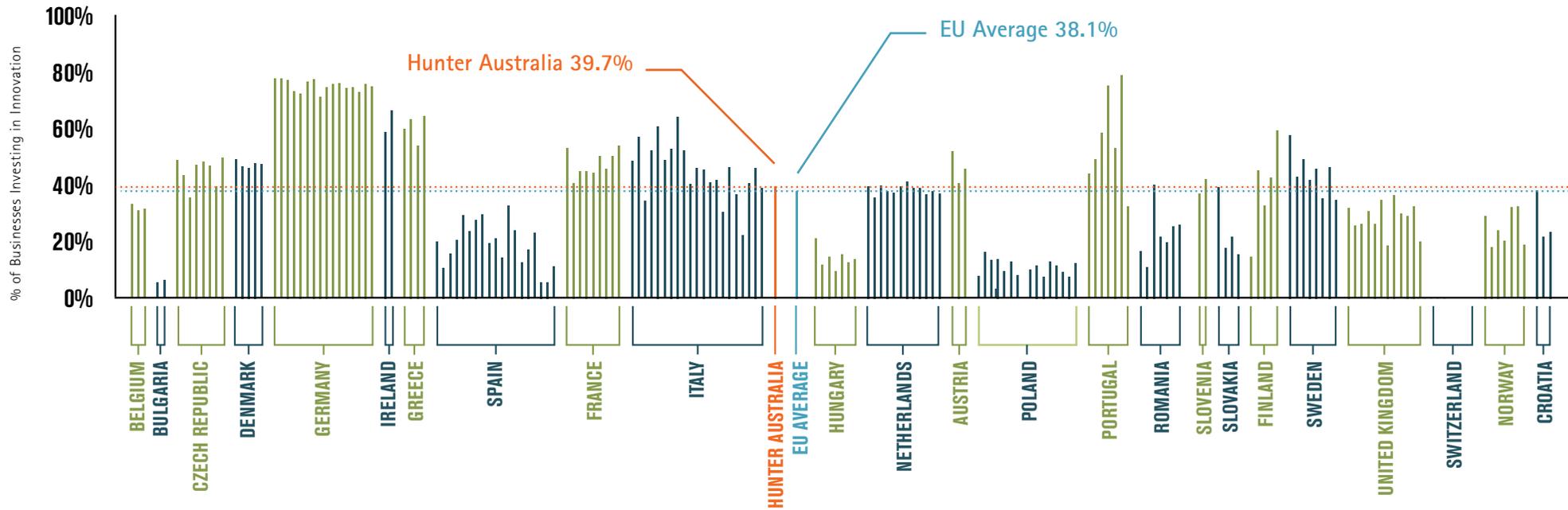


48.2% of Hunter businesses introduced new or significantly improved methods and processes.

Hunter ranks 70th against 190 EU regions.

# INVESTMENT IN INNOVATION

## INTRODUCING MARKETING OR ORGANISATIONAL INNOVATION



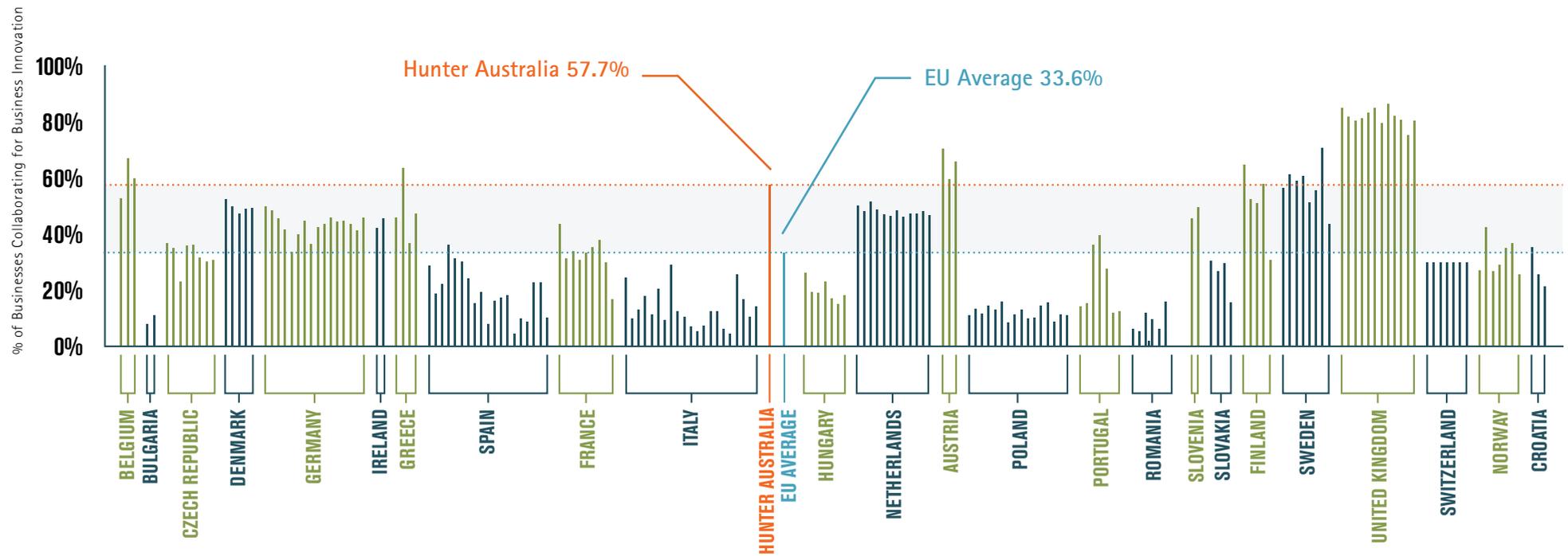
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39.7% of Hunter businesses introduced marketing or organisational innovation.

The Hunter ranks 72nd against 190 EU regions.

# COLLABORATION FOR BUSINESS INNOVATION

## INNOVATIVE BUSINESSES COLLABORATING WITH OTHERS

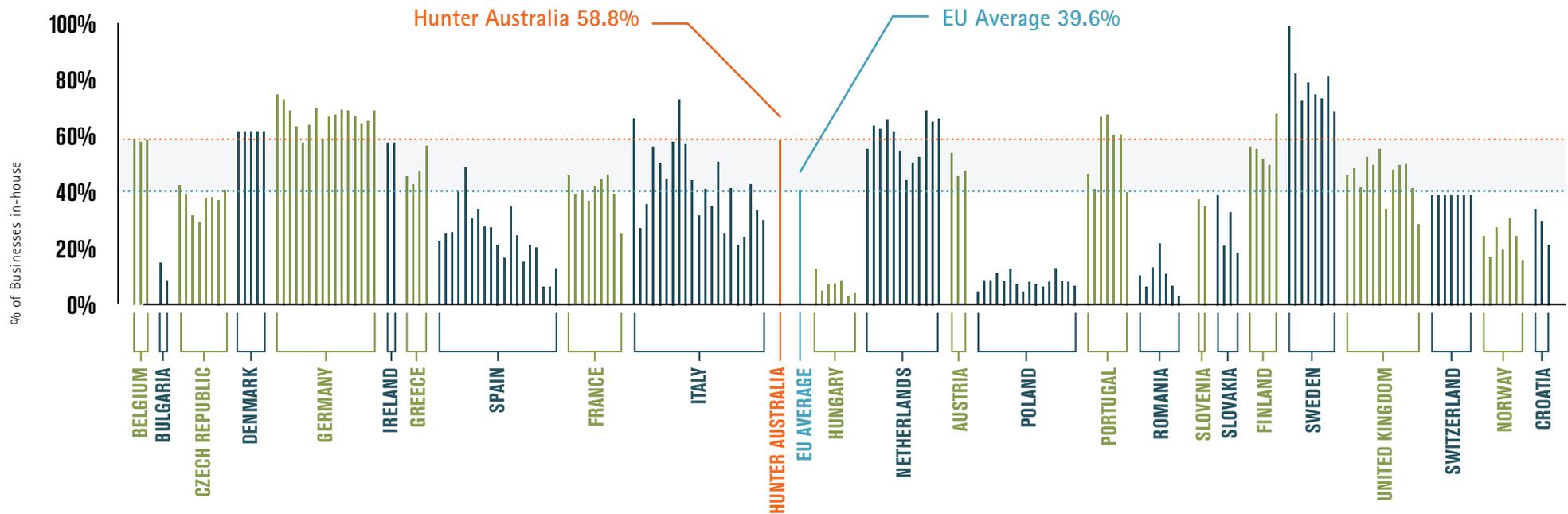


57.7% of Hunter businesses that innovate collaborate with others.

The Hunter ranks 25th against 190 EU regions.

# IN-HOUSE INNOVATION

## BUSINESSES INNOVATING IN-HOUSE



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58.8% of Hunter businesses innovate in-house.

The Hunter ranks 37th against 190 EU regions.

# HUNTER BUSINESS SURVEY - TIME SERIES

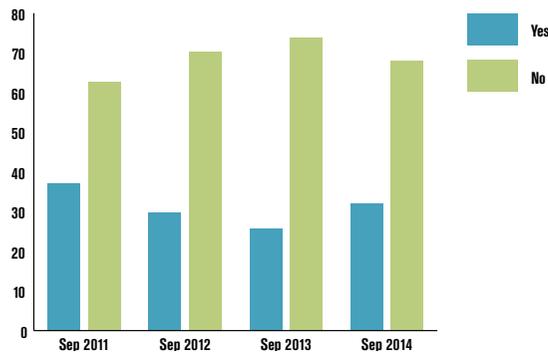
The Hunter Research Foundation (HRF) is a regional research organisation providing information to local businesses and communities. Through its regional research program, HRF aims to deliver insights that move the Hunter forward, towards becoming a globally competitive economy with an inclusive and resilient community.

Our regional research program focuses on shedding light on high-impact issues that will impact the long-term sustainability of the region.

Innovation – the implementation of new goods, services, processes, marketing methods, organisational methods or business practices – has been identified as a factor in improving waning productivity levels in the Australian economy.

The HRF has been monitoring the level of innovation in the Hunter economy since 2009. The results of the 2014 survey indicate a general improvement in key innovation indicators over 2013 as the region more proactively faces the challenges of building new opportunities in an increasingly competitive global market.

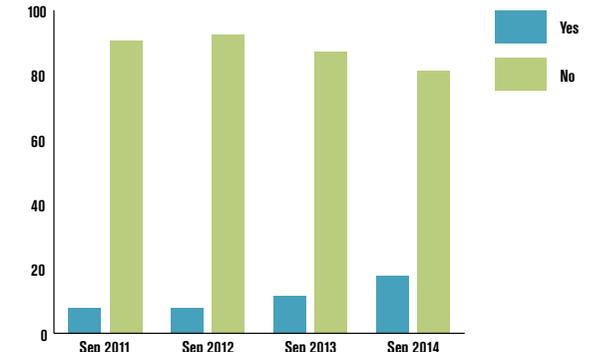
## THE HUNTER'S INNOVATIVE CULTURE



## COLLABORATION TO PRODUCE NEW PRODUCTS



## NEW PRODUCTS TO THE WORLD



After several years of declining innovation Hunter companies have responded to the challenges of building new markets post the slow-down in the unprecedented investment in mining that has occurred over the past 5 years.

Collaboration has proven to be a strong ingredient to create sustainable innovation as it allows companies, particularly SME's to leverage knowledge, skills and capabilities beyond which can be sustained within the organisation itself.

While innovation can be focused on improving the efficiency of productivity of existing products or services, new-to-the-world products provide the opportunity for businesses to define new value-propositions with customers and capture increased value.

# INTERNATIONALLY COMPETITIVE LOGISTICS SUPPLY CHAINS

**“LOGISTICS MANAGEMENT PLANS, IMPLEMENTS AND CONTROLS THE EFFICIENT, EFFECTIVE FORWARD AND REVERSES FLOW AND STORAGE OF GOODS, SERVICES AND RELATED INFORMATION BETWEEN THE POINT OF ORIGIN AND THE POINT OF CONSUMPTION TO MEET CUSTOMERS’ REQUIREMENTS”**

- Council of supply chain management professionals  
2014

Every Australian industry is affected by logistics - the combined activities of end-to-end supply chains.

Logistics in Australia accounts for 8.6 per cent of GDP, added \$131.6 billion to the national economy in 2013 and employs 1.2 million people.

Innovation that is focused on the whole-of-supply chain to improve efficiencies, encourage collaborations that will reform regulations and construct smart infrastructure, and deliver long-term planning certainty for freight and urban development, is required to maintain international competitiveness and increase the economic benefits from the logistics industry to Australia.

The Hunter Valley Coal Chain Coordinator demonstrates that the Hunter has the skills and worlds best practice technology to assist industry.

## **CASE STUDY: HUNTER VALLEY COAL CHAIN COORDINATOR**

[www.hvccc.com.au](http://www.hvccc.com.au)

Stretching over 450 kilometres, the Hunter Valley coal chain is the largest coal export operation in the world and carries a reputation for excellence in supply chain management.

Many historic flaws have been addressed in recent years, including a long-term mismatch of rail, terminal and rolling stock capacity. For a long time infrastructure was delivered in an ad-hoc and uncoordinated manner which ultimately caused throughput bottlenecks. This became painfully evident during the Pasha Bulker storms of 2007 when the number of vessels queuing off Newcastle peaked above 80, pushing demurrage costs to near crippling levels.

In the background, a fledgling body formed between coal loader Port Waratah Coal Services, rail operator Pacific National, track owner Australian Rail Track Corporation and Newcastle Port Corporation was proving that centralised communication and planning could make a big difference in terms of unlocking latent coal chain capacity. This collaborative endeavour was the forerunner for what would become an end-to-end, whole-of-industry member body - the Hunter Valley Coal Chain Coordinator (HVCCC).

The HVCCC's membership is currently made up of 19 coal chain participants including 11 producers, four rail haulage providers, two terminal operators and the track and port managers. The only body with a helicopter view of the coal chain, the HVCCC oversees the movement of more than 80 coal types from 35 mines every year. That involves more than 20,000 annual train trips and the loading of 1,600 vessels that export to 12 countries.

The key is centralised daily planning and scheduling that focuses on managing the coal chain as a single system whilst ensuring that individual members' contractual entitlements are met. Decision making is independent and impartial. Members participate with peace of mind that commercially sensitive information will remain confidential.

Working within a commercial framework established under the Hunter Valley's historic coal export plan introduced in 2010, the HVCCC is largely guided by contracts that bring commercial reality to coal chain operations. This in turn positions the HVCCC to make long-term and over-arching investment recommendations to service providers so they can have certainty on what infrastructure they need to deliver to meet their contracts.

HVCCC utilises state-of-the-art modelling and simulation techniques to identify, manage and work around coal chain constraints - including break-downs, weather disruptions, late movements and maintenance outages. To date, HVCCC has invested more than \$10 million in innovative constraint-based planning technology and models.

A recent initiative includes the 'Slot Management' process run by the HVCCC's Live Run Integration Team - a cross-functional team made up of members of each of the coal chains service providers. Slot Management minimises throughput losses by limiting flow-on impacts when there is a disruption event. An historic problem was one late train causing multiple trains to run late. Up until recently only about 20 percent of trains were making their terminal tipping slot within an hour of the planned time. This had a significant bearing on throughput losses running at ten percent in 2013. Under Slot Management, trains now move under strictly defined paths (or slots). If a train can't move within its slot the Live Run Integration

Team finds the best and least disruptive alternative, sparing the chain from mass disruption.

After being implemented in August 2013, Slot Management has contributed to loss rates dropping to as low as four percent and is on track to boost throughput by four million tonnes annually. That means the delivery of additional export coal with a market value of nearly \$300 million. Significantly, the achievement has come at no additional capital cost given that existing infrastructure is being better utilised.

The Hunter Valley coal chain's broader performance is equally impressive.

Annual throughput in 2013 was 150.58 million tonnes, which is more than 12 percent higher than in 2012. HVCCC has supported Hunter Valley service providers and producers with advice and recommendations on proposed capital investments. Unprecedented infrastructure commitments have been made in recent years. Vessel queues are better managed and demurrage costs are reduced. Importantly, the Hunter Valley coal chain is now working in an environment of unprecedented cooperation and harmony. And it says something that the world's foremost logistics supply chains look to the Hunter Valley Coal Chain Coordinator (HVCCC) when seeking guidance on how they can do things better.





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