



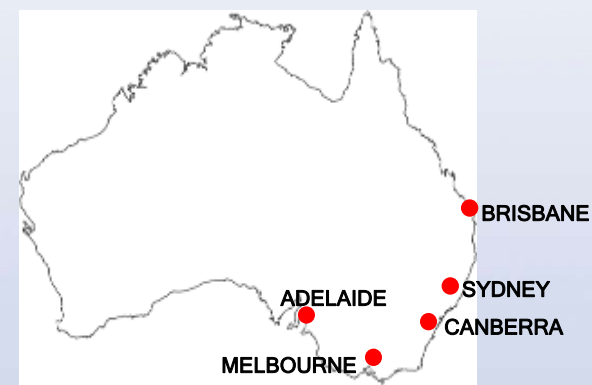
**SAE & Monash University
Innovation Management Conference**

**CRCs as a Catalyst for
Business Innovation**

25 August 2011

**Dr Matthew Cuthbertson
CEO, AutoCRC**

- ❖ CRC program established in 1990 to deliver significant benefits to Australia ... by supporting user-driven research partnerships ... to address major challenges
- ❖ AutoCRC start-up December 2005, funded to June 2012
- ❖ Research for smarter, safer, cleaner vehicles
 - ❖ Involving 10 research organizations and >20 companies
 - ❖ On target to complete 90 industry projects, graduate 50 PhDs
- ❖ Strategic initiatives for Australian auto sector
 - ❖ International research collaborations
 - ❖ Award-winning supply chain development program
 - ❖ *Automotive Australia 2020* technology roadmap



Business Innovation - *Vive la différence*



- ◆ SMR Automotive Australia - Plastic mirrors
 - ◆ New capability, new business



- ◆ Air International - Waste heat recovery
 - ◆ Core capability, new application



- ◆ GroundProbe - Slope stability radar
 - ◆ New technology, new company

◆ SMR: Adelaide based manufacturer of automotive mirrors

- ◆ 80% product exported
- ◆ Core capability includes plastic moulding

◆ Opportunity: Replace glass with plastic

- ◆ Shatter-proof, lightweight, lower cost
- ◆ Need high performance coating



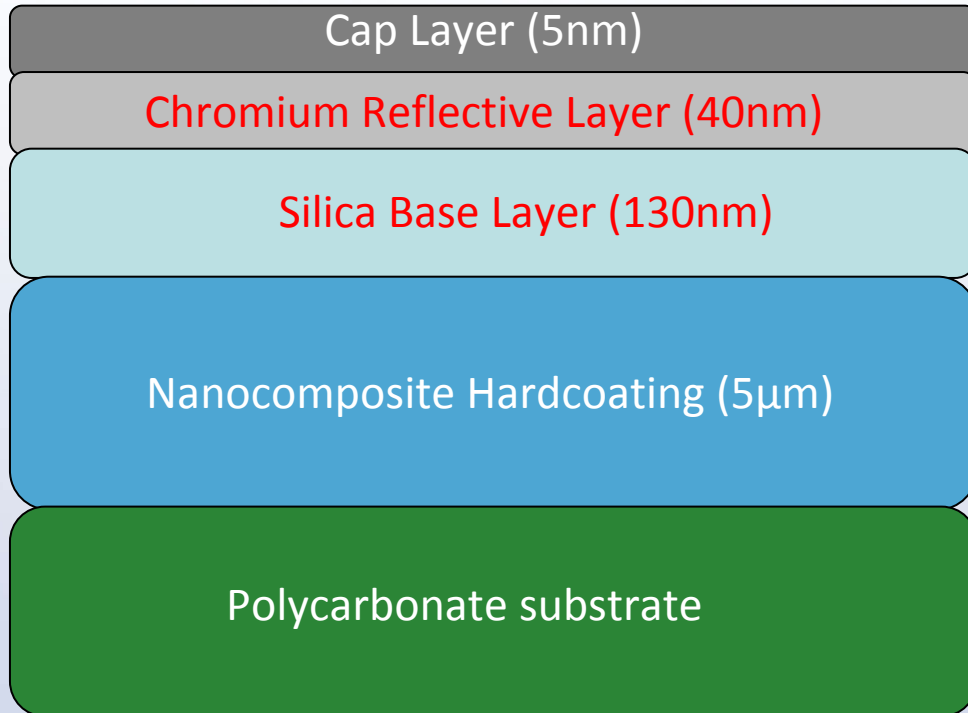
◆ CRC value: UniSA team with deep knowledge of optical coatings

- ◆ Balanced project structure, for coating materials and processes
- ◆ Established connections with equipment providers
- ◆ Teamwork - seamless exchange of people and ideas

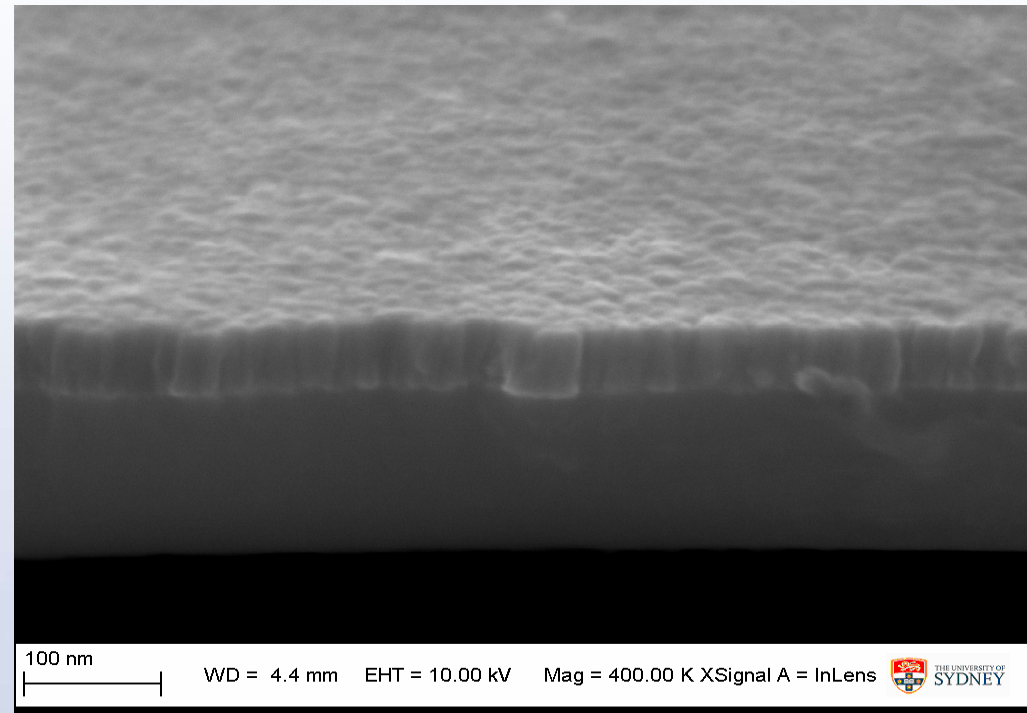


Coating Stack - Liquid and Vacuum Processes

Schematic - Coating Stack Design



TEM Image of cap and Cr layers





Manufacturing facility opened in May

- ◆ New funding for implementation from Green Car & State development funds
- ◆ 5 million mirrors per year
- ◆ Major new contract with Ford USA

New enterprise - SMR Technologies

“to support innovative developments in **non-automotive industries** ... precision, highly engineered moulded and electronic component combinations ”





**Air International
Thermal Systems**

◆ Air International: Supplier of automotive air conditioning systems

- ◆ Core expertise in thermal management
- ◆ Lean manufacturing systems, supply chain (Asia)
- ◆ Seeking diversification, post GFC

◆ Opportunity: Turn waste heat into electricity

- ◆ Mature technology, new idea (Organic Rankine Cycle)
- ◆ Modular system in container, go to the heat source



◆ CRC value: RMIT expertise in thermodynamics, mechanical design

- ◆ Keen to apply knowledge to important practical problem
- ◆ Monash student team for market research - find low quality waste waste heat
- ◆ Funding for prototype, connections to investors

 **RMIT University**

 **MONASH University**

AutoCRC 

Working Prototype at Air International



◆ New enterprise: gT Energy Technologies (2010)

- ◆ Created by former Air International senior staff
- ◆ Transition facilitated by AutoCRC
- ◆ New funding from venture capital and Commercialisation Australia
- ◆ Value proposition: Low cost, build-own-operate generators at customer sites - with shared revenue through power off-take
- ◆ Early adopter customers in Singapore, Korea, China ...

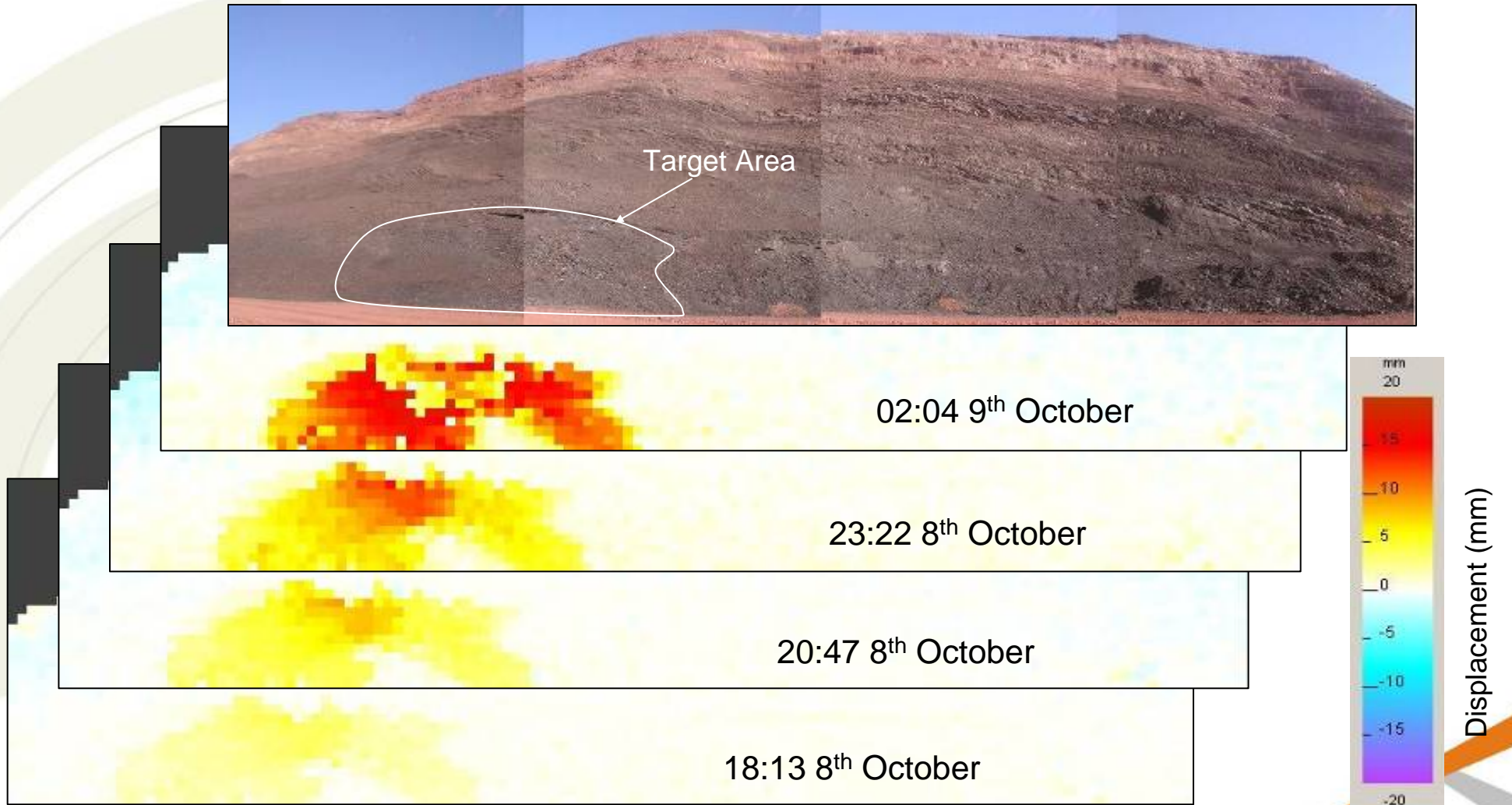


Challenge

- Remote monitoring of slope stability in open cut mining



Slope Stability Radar - User Interface



CRC Contribution



THE UNIVERSITY
OF QUEENSLAND

- Deep expertise from defence radar research in UQ team
- PhD student experiments 1999, prototype radar 2001 for trials
 - Broad area scanning to range ~1km, detects sub mm movement
 - Continuous monitoring in all weathers
- *GroundProbe* inc July 2001, CRC life support until 'investable' - 2003
 - High quality board and core executive team
 - Clean and robust IP portfolio
 - Strong business model, first 2-year customer lease

Deloitte.
Technology Fast500
Asia Pacific 2005


ENTREPRENEUR
OF THE YEAR
2006


bhpbilliton
Mining Technology & Services Award
ExpoMin 06

CELEBRATING
The Premier of Queensland's
Export Awards
2009
TWENTY YEARS


ATSE
CLUNIESROSS
AWARD


DESIGN
AWARD
TM

GroundProbe[®] 2011

- 2010 revenue \$44.4m, EBIT \$9.9m
 - *150 radars deployed in at 53 sites in 15 countries*
- Subsidiaries in USA, Chile, Brazil, South Africa, China, India
- Cornerstone position despite emerging competition
- Diversified business, strong new product pipeline
- Acquired by private equity investor Nov 2010, for >\$100m



Conclusions

- ◆ The right combination of skills can deliver magical outcomes
 - ◆ with the right expertise at the interface
- ◆ Key is delivering value for the customer
- ◆ But expect the unexpected - and be prepared to adapt
- ◆ Success or failure often depends on the first step with a business model ...



