



AGGAT: an Industry Imperative

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General Manager Industry Development
Heavy Engineering Research Association

Heavy Engineering Research Association



- **600 Member Companies**

To have the **Best of Engineering Industry** achieve world class standards for **profitability, quality and sustainability**

HERA Industry Focus

Steel Construction

Grayson Engineering
Dixon & Haddon
East Coast Steelworks
Supported through:
Structural Steel Research
Market Development
via SCNZ

Heavy Engineering

Fitzroy Engineering
Page Macrae
Acme Engineering
Tenix
Supported through:
Heavy Engineering Research
Industry Development

**Above Ground Geothermal
& Allied Technologies**

AG_GAT

**An industry development
initiative fostering the
establishment of a
science base to support
technology development
by industry.**

The Science Base

- MSI High Value Manufacturing – Geothermal , grant sought to part fund development of science base to support industry
- AGGAT from project to platform
- Inaugural meeting of AGGAT science base team December 2012 - University of Canterbury

Renewable energy

Technology concepts

Control Systems



Scale of operation

Technology integration

Binary fluids

Heat Transfer & Design

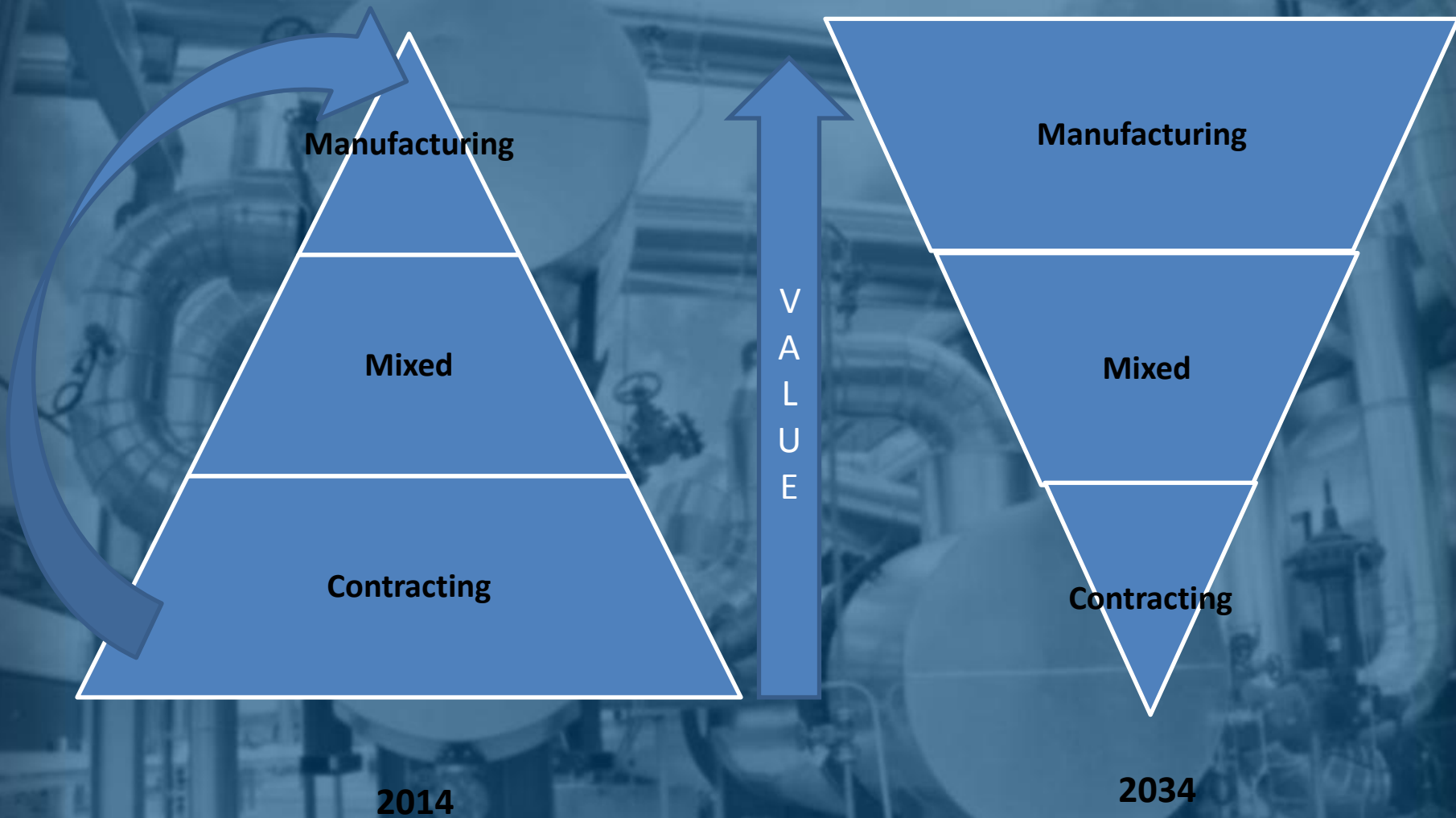
Turbine design & performance

Conversion technology

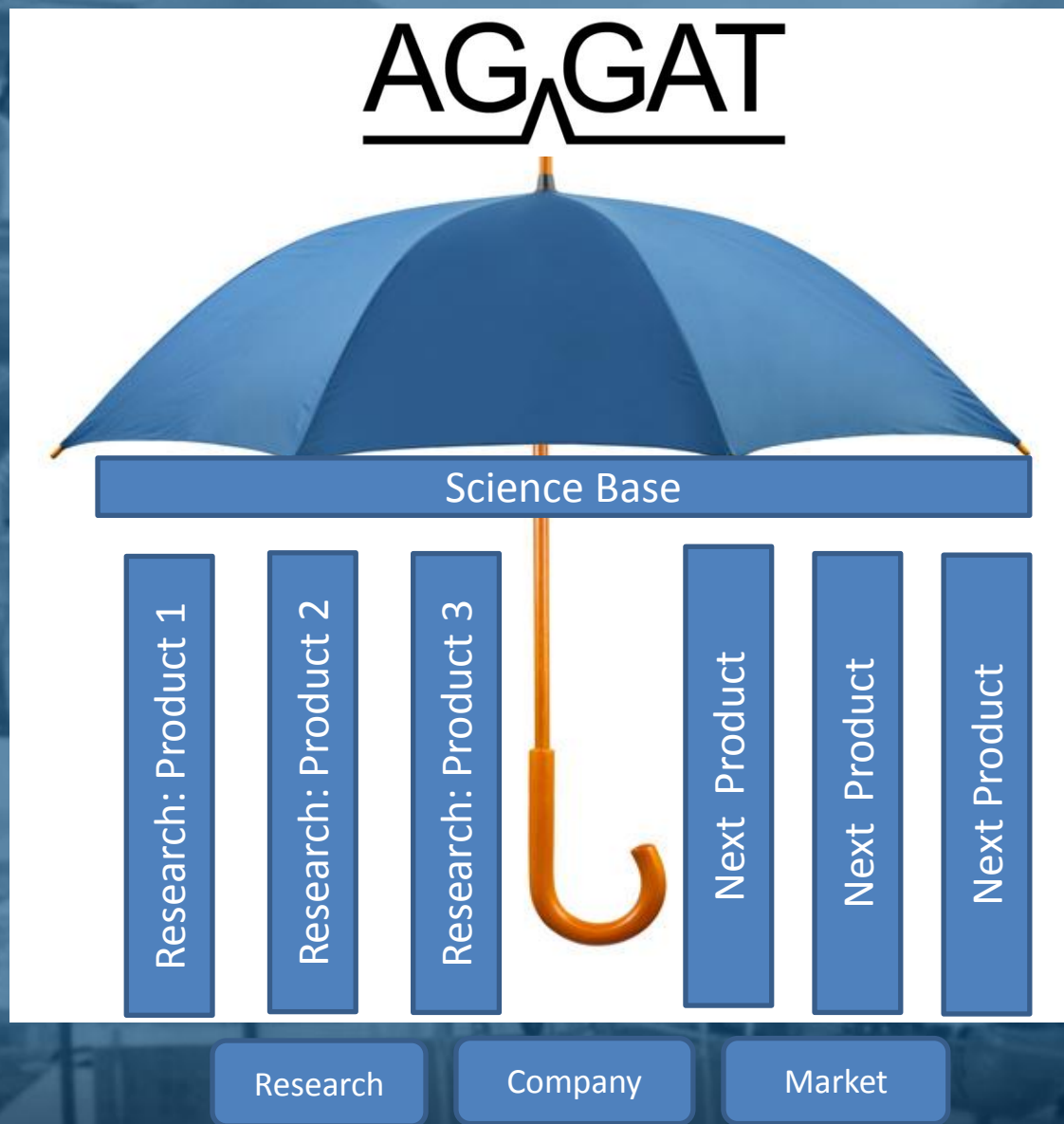
Why are we doing this?

- We have a geothermal reputation to trade on
- Our companies have been building geothermal plants for more than half a century
- Increase NZ IP in Geothermal technologies
- Increase value of products manufactured
- If we have incomplete geothermal credentials we will find it increasingly difficult to compete

Why are we doing this?



NZ Manufacturing



Geothermal & Waste Heat

ORC System
Modeled &
Concept Design

Resources
Characterised &
Modeled

Research Team
Established

Research Funding
Sought & Secured

Research Needs &
Team identified

RESEARCH

Detail Design

Companies
Enrolled

Companies
Identified

COMPANY

Visit to UK /EU
2013

Sales and Market
Access Pathway
Study

Trade Delegation
USA 2012

Waste Heat
Market Report

Geothermal
Market Report

MARKET

Supporting Activities

- Update Geothermal Capability Register
- Develop AGGAT research roadmap with input from researchers and industry
- AGGAT workshop to identify research questions

HEAVY ENGINEERING RESEARCH ASSOCIATION

HERA Report R5-35:2014

Geothermal Capability Register



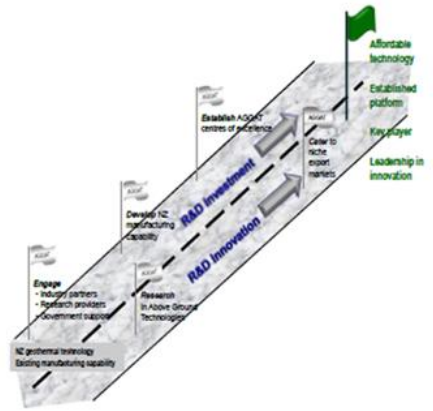
HERA
Innovation in Metals

HEAVY ENGINEERING RESEARCH ASSOCIATION

HERA Report R5-47

ABOVE GROUND GEOTHERMAL & ALLIED TECHNOLOGIES RESEARCH ROADMAP

AGGAT



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Innovation in Metals



**“We often miss opportunity because it's dressed
in overalls and looks like work”**

Thomas A. Edison

Thank You

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