



AGILIS
FULLY INTEGRATED
SYSTEM FOR
LONGWALL COAL
MINING

SOLUTION OUTLINE

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REVISION: 1

Agilis is the worlds only fully integrated system designed to increase the productivity of coal mining. Using the latest industry leading technology, Agilis achieves unrivalled performance capability and efficiency that delivers enhanced value and profit at the lowest installed cost.



HIGHEST
ENERGY EFFICIENCY



LOWEST
INSTALLED COST



HIGHEST
OPERATING PERFORMANCE



LOWEST
OPERATING COST



LOWEST
ENVIRONMENTAL COST



LOWEST
PROJECT
& OPERATING RISK

CAPABILITIES

Increased productivity through maximised uptime and improved performance

Enhanced energy efficiency and cost savings through variable speed, demand-based control

Boosted product life and reliability through the benefits of parallel pumping

Improved maintenance through connectivity

Digital mining through connectivity to Scada monitoring

VALUE

	MINE OWNER	MINE MANAGER	MINE OPERATIVE
Lowest first install cost	✓		
Extended system life	✓	✓	
Lowest operating costs	✓	✓	
Increased productivity up to 5% through greater efficiency of the longwall system	✓	✓	
Minimum 25% space saving, compact, integrated solution providing single source accountability		✓	✓
Quick and easy commissioning through plug and play technology		✓	✓
Enhanced productivity due to instantaneous responsiveness to demands		✓	✓
Maximum energy efficiency and redundancy through demand based control		✓	
Real time performance through Scada connectivity		✓	
Increased reliability, availability, uptime and efficiency		✓	✓
Improved redundancy of controls and pumps		✓	✓
Improved environment and safety through reduced noise and vibration			✓

FACE OF COAL MINING

LOWEST OPERATING COST

SIGNIFICANT SAVINGS COMPARED TO
INDUSTRY STANDARD SOLUTIONS

Lowest maintenance costs of any pumping configuration

Extended high-efficiency performance

Fully connected for Scada monitoring

Maximum uptime

LOWEST INSTALLED COST

SIGNIFICANT SAVINGS COMPARED TO
INDUSTRY STANDARD SOLUTIONS

Smaller footprint

Reduced overall weight

Fewer connecting components

Reduced labour cost

HIGHEST CAPABILITY

SIGNIFICANT SAVINGS COMPARED TO
INDUSTRY STANDARD SOLUTIONS

Maximum reliability

Maximum flexibility

Managed redundancy without duty/standby



INCREASED REVENUE AND PROFIT THROUGH ENHANCED PRODUCTIVITY

> Instantaneous Response Time

The Agilis fully integrated system enables instantaneous action allowing coal face productivity to increase by up to 5%.

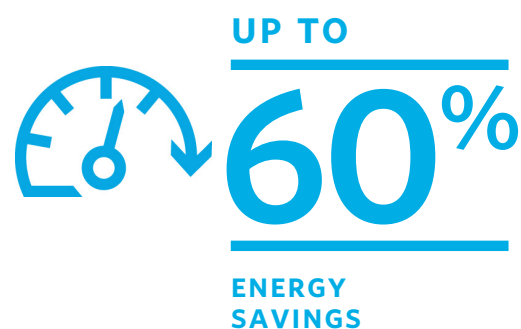
When you consider a typical coal face extracts 8 million ton of coal per year, Agilis could deliver an additional \$5.6m a year revenue.



LOWEST
PROJECT
& OPERATING RISK



HIGHEST
ENERGY EFFICIENCY



> Proactive Intelligent Control

The addition of ODIN intelligent technology enables Agilis to anticipate movement of roof supports and be ready in advance, preventing pressure drops occurring and providing instantaneous response which enhances productivity, availability, and up time.

> Boosted Labour Efficiency

Intelligent controls virtually eradicate system lags and delays to allow for optimised speed of continual shearing.

> Increased Availability Though Enhanced Reliability

Core components of Agilis are specifically designed as 'plug and play' for quick and easy replacement to maximise uptime.

THE TRUE POWER OF PARALLEL PUMPING

The traditional approach to control used in longwall systems involves staging of pumps based on pressure lag.

With our vast industry experience, we know the majority of longwall systems perform well below peak productivity most of the time.

Agilis technology removes the hydraulic lag by using intelligent controls and synchronised pumping to increase coal face productivity and energy efficiency.

The Agilis fully integrated system operates simultaneously with the shearer and roof support system using the minimum energy required to deliver optimum flow for the current system demand.



NEXT LEVEL THINKING

> Full Capability Back-up

Agilis has full mechanical and control capability back-up built-in. By having the all the pumps working simultaneously at lower speeds, in the unlikely event of a failure, the other pumps simply step up to deliver the load required and eliminates the need for dormant stations.

Whilst the simplicity of plug and play control modules ensures quick and easy replacement, ensuring system uptime is maximised.

REDUCED COSTS AND IMPACT ON THE ENVIRONMENT:



Reduced water consumption as external cooling is not required



Reduced energy cost and consumptions at all load conditions



Reduced CO₂ emissions



Reduced emulsion waste due to minimised pressure spike effects on hydraulic components

**25% LESS
MAINTENANCE**

25% SPACE SAVING

LONGWALL SYSTEM WIDE MAINTENANCE RECONFIGURED

EXTENDED PRODUCT LIFE AND MAINTENANCE INTERVALS

- Increased efficiency and availability uptime means panels are cleared quicker so maintenance intervals can be extended
- Synchronised system pumping reduces wear of key components
- Intelligent control/ODIN technology reduces pressure surges which can damage hoses and seals thereby increasing system longevity
- Increased up time with simple plug and play repairs and full control system redundancy
- Continuous system activity performance monitoring for proactive maintenance.



**FIRST
COST
SAVINGS**

- Reduces train size by up to 25%
- Saves labour cost with no onsite assembly required
- Eliminates risk of connection issues onsite
- Saving time and labour cost with quick and easy commissioning and compatibility testing with plug and play components
- Eliminates cost for a duty stand by pump station



TESTS ARE PASSED AND CERTIFICATION IS PENDING

AGILIS and ODIN
have global patent approvals.

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