



ELGI COMPRESSORS

**THE LIFE SOURCE OF INDUSTRIES**

[www.elgi.com](http://www.elgi.com)

**ELGi**

Always Better.

# WHY ELGI

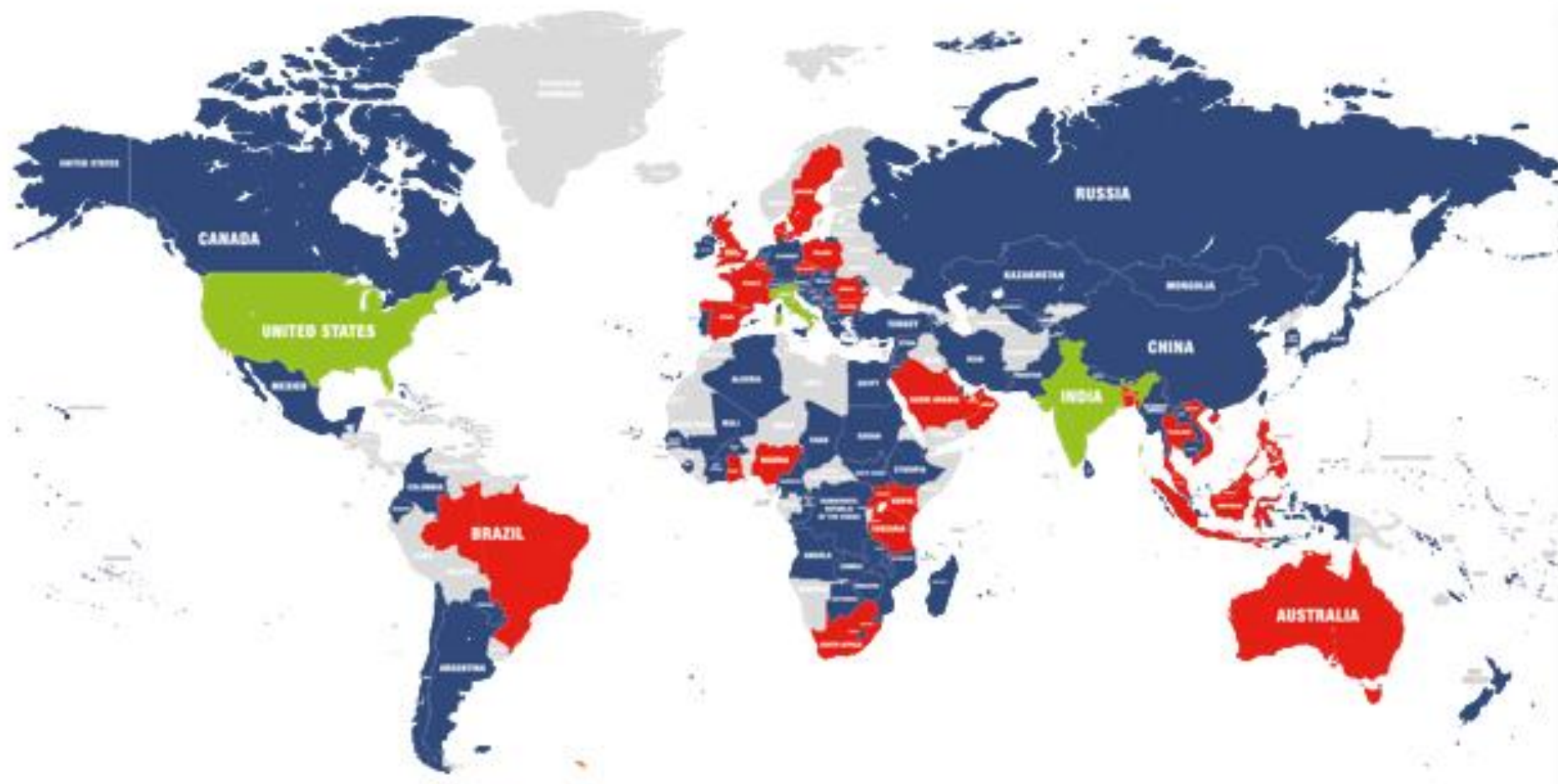
<https://www.youtube.com/watch?v=kRBAKBhbFks>

[ELGi Infrastructure - YouTube](#)

[https://en.wikipedia.org/wiki/Deming\\_Prize](https://en.wikipedia.org/wiki/Deming_Prize)

[Leaders at ELGi share their thoughts on winning the 2019 Deming Prize - YouTube](#)

## About ELGi



**120+**

Countries where  
ELGi does business

26

Countries with  
Direct presence

3

Countries with manufacturing presence

# Subsidiary Companies and Joint Ventures

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## Subsidiary Companies (Acquired)

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## Joint Ventures

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Pattons of California LLC





Future-ready manufacturing units in the world with highest standards of quality and safety



Compressor Plant - INDIA

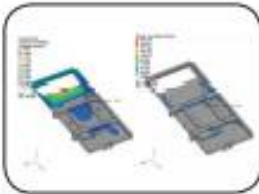


Compressor Plant - USA



Compressor Plant - ITALY

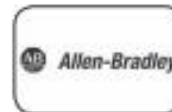
### Technological advantage



ELGi has developed in-house FEA, CFD, NVH and industrial design capabilities to ensure continuous innovation in product quality.

FEA: Finite Element Analysis, CFD: Computational Fluid Dynamics, NVH: Noise Vibration Harshness

### ELGi's Globally renowned vendors



## Deming Prize awarded to ELGi

The **Deming Prize** is the longest-running and one of the highest awards on TQM (Total Quality Management) in the world. It recognizes both individuals for their contributions to the field of Total Quality Management (TQM) and businesses that have successfully implemented TQM.<sup>[1]</sup> It was established in 1951 to honor W. Edwards Deming who contributed greatly to Japan's proliferation of statistical quality control after World War II. His teachings helped Japan build its foundation by which the level of Japan's product quality has been recognized as the highest in the world, was originally designed to reward Japanese companies for major advances in quality improvement. Over the years it has grown, under the guidance of the Japanese Union of Scientists and Engineers (JUSE) to where it is now also available to non-Japanese companies, albeit usually operating in Japan, and also to individuals recognized as having made major contributions to the advancement of quality. The awards ceremony is broadcast every year in Japan on national television.

[https://en.wikipedia.org/wiki/Deming\\_Prize](https://en.wikipedia.org/wiki/Deming_Prize)



# About ELGi

*ERGO DESIGN – ELGi's in-house design firm focuses on product design for best-in-class aesthetics and form*



6,500

Square feet of  
studio space

17

**TEAM STRENGTH**  
Total no. of employees



# Global Manufacturing Capability



**5+ Million Sq. Ft.  
of “Future-ready”  
Manufacturing  
Facilities**





# About ELGi

*ELGi foundry produces high precision grey and SG iron castings using the most advanced and environmentally friendly processes*



400,000	Square feet of foundry land
100,000	Square feet of factory space
9,000	<b>PRODUCTION CAPACITY</b> metric tonnes per annum
30-3200	<b>WEIGHT OF CASTINGS</b> kilograms

*ELGi's vertically integrated compressor production offers high quality with best-in-class efficiency*



5,000,000	Square feet of factory land
1,000,000	Square feet of factory space
15,000	Airends per year
40,000	Compressors per year

# About ELGi

## HOUSING - MACHINING (VMC / HMC)

ELGi machines castings in-house using best-in-class machine tools ensuring highest quality standards



03 - 250

**PRODUCTION CAPABILITY**  
kilograms

38,000

**PRODUCTION CAPACITY**  
parts per year

< 2 microns

**ACCURACY**

## ROTOR PRODUCTION - MILLING

ELGi custom designs and builds its own rotor milling machines to produce highest quality rotors with lowest manufacturing cost



**LOW VIBRATION**

Resulting in tighter milled rotors

**HIGHER RIGIDITY**

That enables faster production

**SELF-MONITORING**

To prevent defects



# About ELGi

## COMPRESSOR ASSEMBLY

Best-in-class conveyor assembly line with automated monitoring and *testing stations*



### PRODUCTION CAPABILITY

15,000

Screw air compressors  
per year

25,000

Piston compressors  
per year

## ELGi manufactures pressure vessels meeting international standards



60,000

Square feet of  
factory space

29,000

**PRODUCTION CAPACITY**  
Receivers per year



# ELGi's Vendor

## Global Vendors

Best-in-class globally recognized vendors to ensure quality and seamless warranty



# ELGi's Customer



## Air compressors across the spectrum



### EN Series

Encapsulated Screw Air Compressor  
2.2 – 75 kW / 8 – 469 CFM



### EG Series

Oil Lubricated Screw Air Compressor  
11 – 250 kW / 47 – 1612 CFM



### OF Series

Oil Free Screw Air Compressor  
90 – 450 kW / 572 – 2450 CFM



### CG Series

Centrifugal Compressor  
450 – 930 kW / 3000 – 5200 CFM



### Oil Lubricated Recip

Oil Lubricated Piston Compressor  
1.0 – 40 HP / 2.0 – 128 CFM



### Oil Free Recip

Oil Free Piston Compressor  
1.0 – 75 HP / 1.8 – 300 CFM



### PG Series (Electric)

Electric Portable Screw Compressor  
22 – 75 kW / 131 – 514 CFM



### PG Series (Diesel)

Diesel Powered Screw Compressor  
185 – 1500 CFM / 100 – 400 PSI

## Complete end-to-end Solutions & accessories



- Variable Frequency Drives
- Receivers
- Dryers
- Downstream Filters
- Drain Valves

## For All Industries and Applications



Manufacturing



Iron & Steel



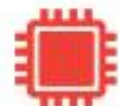
Construction



F & B



Textiles



Electronics



Automotive



Mining



Paper



Pharma



Medical Air



Oil and Gas



Rice and Pulse



Railways



Electrical



Aviation



Leather



Nuclear Plant



# Air Compressors across the Spectrum

## Product Portfolio



### EN Series

Encapsulated Screw Air Compressor

► 2.2 - 45 kW  
9 - 280 cfm



### EG Series

Oil Lubricated Screw Air Compressor

► 11 - 250 kW  
49 - 1540 cfm



### OF Series

Oil Free Screw Air Compressor

► 45 - 450 kW  
190 - 2601 cfm



### AB Series

Oil Free Screw Air Compressor

► 11 - 110 kW  
27.4 - 560 cfm

# Air Compressors across the Spectrum

## Product Portfolio



### Oil-Free Recip

Oil Free Piston Compressor

► 5 - 30 hp  
14.5 - 90 cfm



### Oil Lubricated Recip

Oil Lubricated Piston Compressor

► 1 - 40 hp  
2 - 128 cfm



### PG Series Diesel

Diesel Powered Screw Compressor

► 185 - 1500 cfm  
100 - 400 psi (g)



### PG Series Electric

Electric Portable Screw Compressor

► 22 - 90 kW  
130 - 500 cfm

# Air Compressors across the Spectrum

## Product Portfolio



### EV Series

Oil Lubricated Screw Air Compressor

► 11 - 45 kW  
29 - 281 cfm



### CG Series

Centrifugal Compressor

► 450 - 950 kW  
3000 - 5400 cfm

### Complete end-to-end solutions and accessories

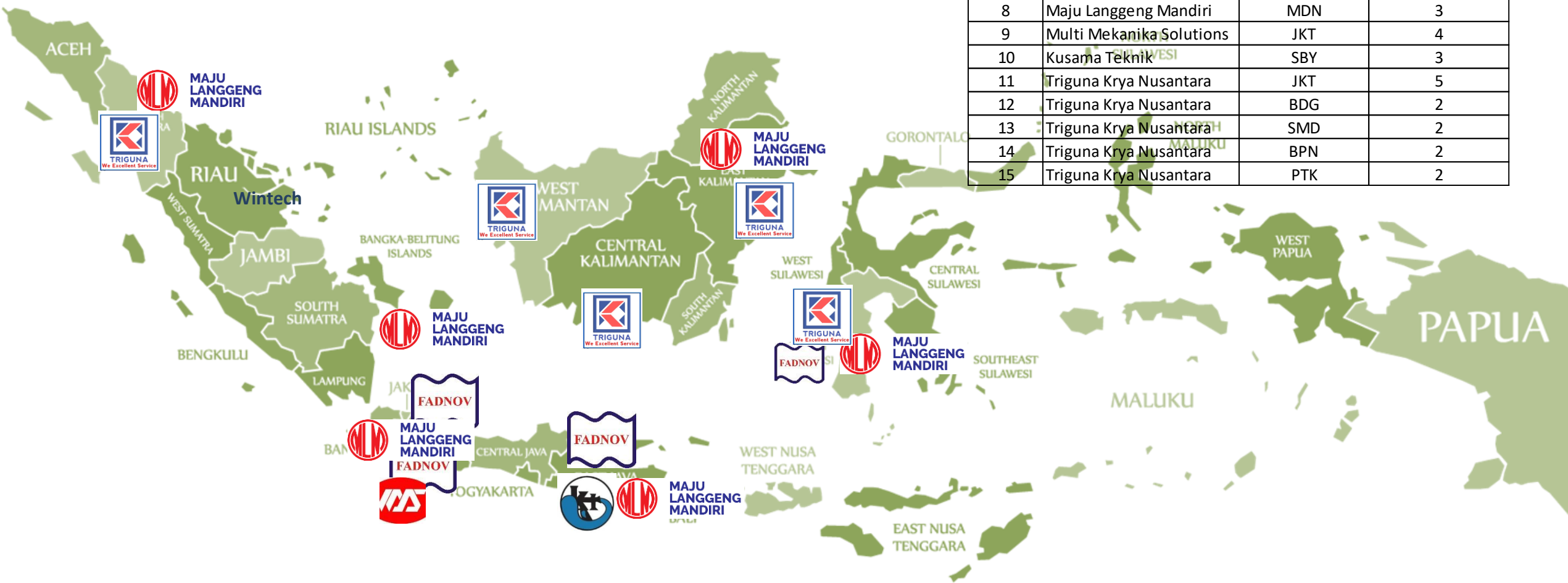
- Variable Frequency Drives
- Receivers
- Dryers
- Downstream Filters
- Drain Valves





# Dealer & Service Support

No	Authorized Distributor	Region	Service Tech
1	Fadnov	JKT	3
2	Fadnov	BDG	6
3	Fadnov	SBY	2
4	Maju Langgeng Mandiri	JKT	5
5	Maju Langgeng Mandiri	SMG	2
6	Maju Langgeng Mandiri	SBY	3
7	Maju Langgeng Mandiri	MKS	2
8	Maju Langgeng Mandiri	MDN	3
9	Multi Mekanika Solutions	JKT	4
10	Kusama Teknik	SBY	3
11	Triguna Karya Nusantara	JKT	5
12	Triguna Karya Nusantara	BDG	2
13	Triguna Karya Nusantara	SMD	2
14	Triguna Karya Nusantara	BPN	2
15	Triguna Karya Nusantara	PTK	2



## The ELGi advantage: 5 reasons why we are the preferred choice of industry leaders



- 1 Best-in-class Lifecycle Cost (LCC)
- 2 Uptime Guaranteed
- 3 The ELGi technical edge
- 4 Reliability (6-year Warranty)
- 5 Proven Results

# ELGi's The best in class LCC

*We constantly strive to innovate...*



**Up to 80% savings on Airends**  
due to serviceable Airends



**Up to 60% lower cost**  
of spares and consumables



**Up to 12% on Energy Saving\***  
due to cutting edge technology



**<1ppm oil discharge Vs 2-3ppm**  
discharge by competition



**Philosophy of repair first,**  
replace only if must

*... to provide consistently lowest LCC compared to peers*

	<b>ELGi.</b>	<b>Leading European competitor</b>	<b>Leading European competitor</b>
LCC parameters	EG 55 @ 9.5 bar	55 kW @ 8.5 bar	55 kW @ 7 bar
<b>A. Power Cost</b>	<b>\$ 364,256</b>	<b>\$ 364,256</b>	<b>\$ 373,556</b>
<i>Effective unload time (%)</i>	2%	9%	17%
<b>B. Maintenance Cost</b>	<b>\$ 9,920</b>	<b>\$ 18,910</b>	<b>\$ 26,505</b>
<i>Consumables (filters, oil, AOS)</i>	\$ 5,580	\$ 12,555	\$ 11,935
<i>Maintenance parts (valve kits)</i>	\$ 2,015	\$ 2,170	\$ 5,270
<i>Hard parts (air-end reconditioning)</i>	\$ 2,325	\$ 4,185	\$ 9,300
<b>LCC (A + B)</b>	<b>\$ 374,176</b>	<b>\$ 383,166</b>	<b>\$ 400,061</b>
<b>C. Initial cost</b>	Competitively Priced	Highly Priced	Highly Priced

\*Energy is more than 75% of the LCC. Savings depends up on model to model, usage pattern and competitors model.



## BEST in CLASS WARRANTY PROVIDED By ELGi

Compressor Part	<b>ELGi</b> EG series	<b>ELGi</b> Oil-free
Air-end	6 years (or) 30000 hrs whichever is earlier	4 years (or) 30000 hrs whichever is earlier
Motor	3 yrs	2 yrs
After-cooler	3 yrs	2 yrs
Compressor Package	1 yr	1 yr
<b>Best-in-class Warranty</b> <hr/> No Questions Asked warranty Complete peace of mind for customers		

# Everything you need in a compressor



# EG Series Core Features



Energy efficient



Low cost of ownership



High Reliability



Ease of maintenance



Compact, Silent and Safe



# Energy Efficient

- 1 Bigger Airend with precise Rotor clearances run at optimum speed to achieve high energy efficiency. The heat load generated Is substantially reduced



- 2 Best quality Air-Less oil carry over (1ppm)\* - Which can separate air and oil with OSBIC (Oil separation by impact and centrifugal action) through 3 stages



- 3 Intake valve with integrated blow down, solenoid and actuator is designed optimally to reduce the starting current, reduce losses and Improve the efficiency



- 4 Airend is driven by Premium efficiency (IE3 ) motor to increase the efficiency of the system thus reducing the carbon emission



- 5 Designed with In built variable frequency drive to match the exact air demand and With substantial reduction in unload power Consumption



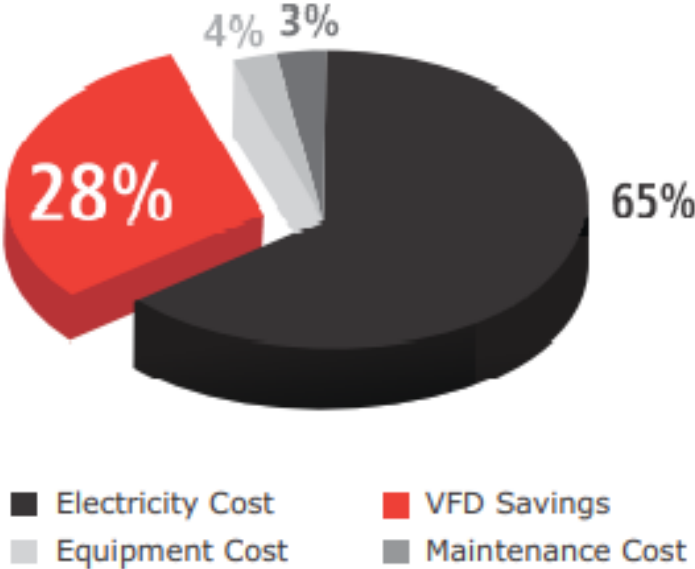
# Low Cost of Ownership

1 Extended life of air compressor  
spares and consumables

Items Description	Every 2000 hrs	Every 4000 hrs	Every 8000 hrs / 2yrs
Items for replacement			
Motor Grease		✓	
Air Filter element		✓	
Oil Filter element	✓		
Air oil Separator			✓
Oil Air Lube UT			✓
Oil return line - Steel			✓
Check and replace items			
Intake Valve kit			✓
MPV kit			✓
Thermal Valve kit			✓
O-ring kit			✓
Solenoid Valve			✓
Belt			✓
Anti Vibration mounts			✓
Blow Down Valve kit			✓

2 Offers low life cycle cost with zero  
compromise on performance and  
quality

Typical compressor life cycle cost  
with VFD



# High Reliability

- 1 Parts and package tested for extreme environment and extended endurance (50° C Ambient Temperature and 95%RH)



- 2 The Package designed for high ambient temperature and Continuous duty totally enclosed fan cooled motor with 'F' class insulation used



- 3 Electrical Panel and the complete machine are CE Certified to Ensure the highest safety and reliability Standards



- 4 Flanged joints with 'O' ring seals to ensure leak free machine



- 5 **Heavy duty Air filters.**
- a. Offers high dust carrying capacity
  - b. Less frequent clogs
  - c. Cold air suction is always ensured



- 6 Strong rigid and robust metal structure design



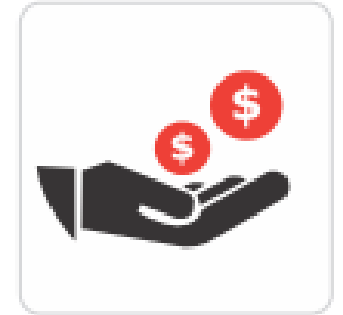


## Ease of Maintenance

- 1 Quick access to all routine maintenance Parts for ease of serviceability



- 2 Proven low maintenance cost in the market



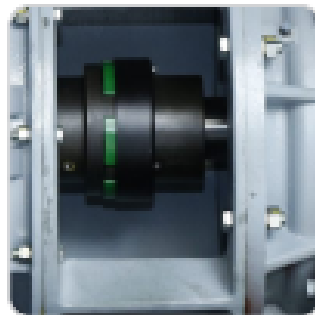
- 3 Display in Controller for indicating the change period of Air oil separator and Oil filter.



- 4 ELGI's Neuron III is a custom designed controller engineered for the efficient control of compressor and compressed air system.



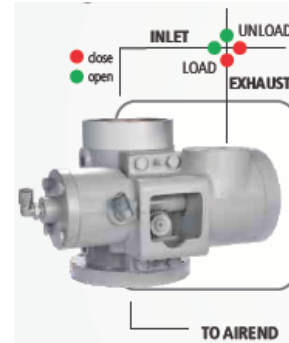
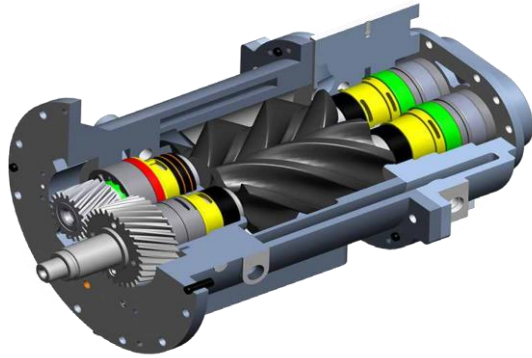
- 5 Easy access for the change of Drive coupling Element during maintenance



# Airend Replacement Cost

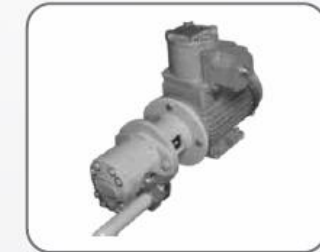
No	ELGi	USD	<div></div>	USD
1	LP-Airend	\$ 24.000	LP-Airend	\$ 48.000
2	HP-Airend	\$ 9.000	HP-Airend	\$ 40.000
		\$ 33.000		\$ 88.000

# Features & Benefit (OILFREE)



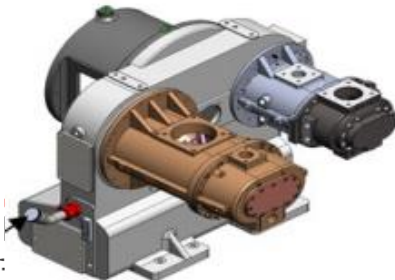
## Capacity Control Valve

- Hydraulic rack and pinion type actuation
- Valve membrane made of stainless steel metal instead of elastomer
- More than one million cycles life tested
- Simultaneous closing of inlet valve and opening of blow-off valve by rack and pinion to ensure safety and air-end life
- Lesser maintenance compared to electrically actuated valves



## Oil Pump

- Separate motor powered oil pump ensures lubrication before and during start of machine (ensuring no dry running of gears and bearings)
- All oil tubing is made of Stainless Steel to increase reliability



## Coolers

- Cupronickel coolers with water-in-tube system, designed for temperature difference of max. 8°C
- Least fouling factor in its kind with best thermal efficiency



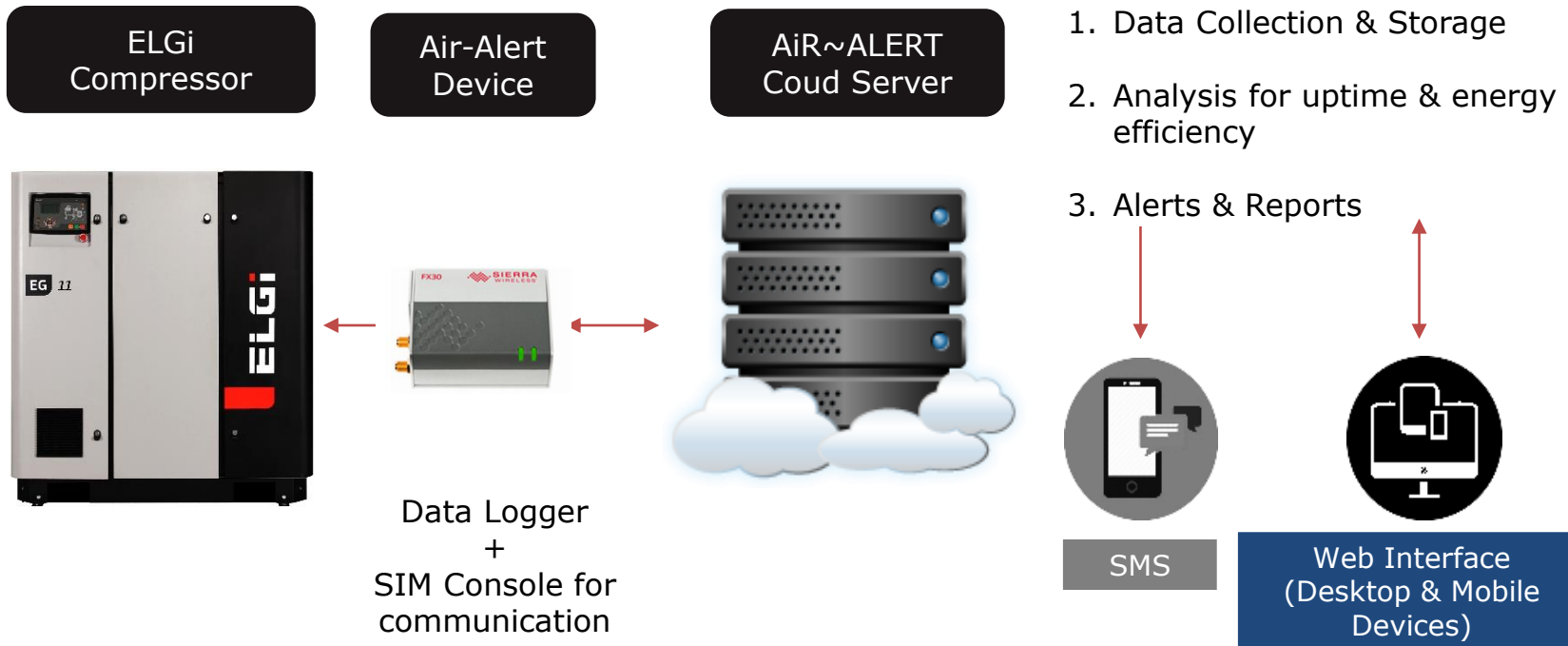


## Value Proposition

# What is Air~Alert?

- AiR~ALERT device acquires data from compressor and sends it to a dedicated server.
- The server analyzes the data and provides actionable alerts to the customer to ensure on time service, fault detection and prediction alerts and insights to improve energy efficiency.
- Customers can view this data on a user friendly web interface on desktop and mobile screens.

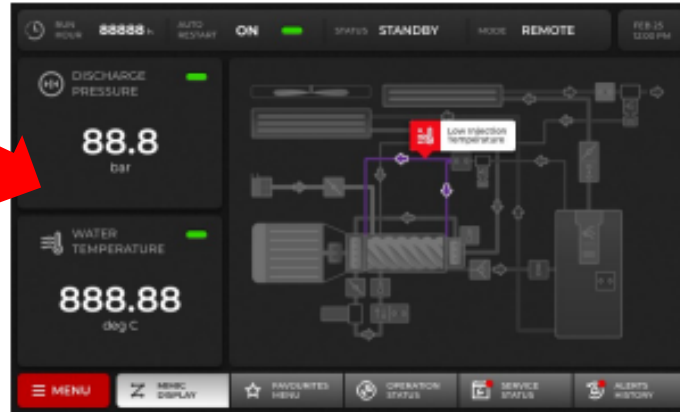
How does it work?



# What is Air~Alert? – Neuron IV Controller



The home screen will show discharge pressure , discharge temperature ,VFD speed % (if VFD enabled), compressor status, warn messages, compressor mode selection details and date & time



## Compressor mode selection details:

**MODE :**PR SCH - Pressure schedule enabled ,  
Manual UL - unload mode enabled,  
PR SCH & Manual UL disabled the space will be shown as empty

Local or Remote or DCS - compressor start from - Local or remote or DCS.

Auto Restart ON/OFF:

Auto restart enabled or auto restart disabled.  
For more details refer menu settings in operator menu.

## Shortcut Tab usage

When the controller is in home screen, you can access below listed parameters using the shortcut Tab.

### "Operation status" - Live analog values and Cumulative Hrs

#### First Window

- Load Pressure
- Unload Pressure
- Live Sump pressure (displays only if sump pressure enabled)
- Load Hours
- Unload Hours
- Cumulative Hours

#### Second Window

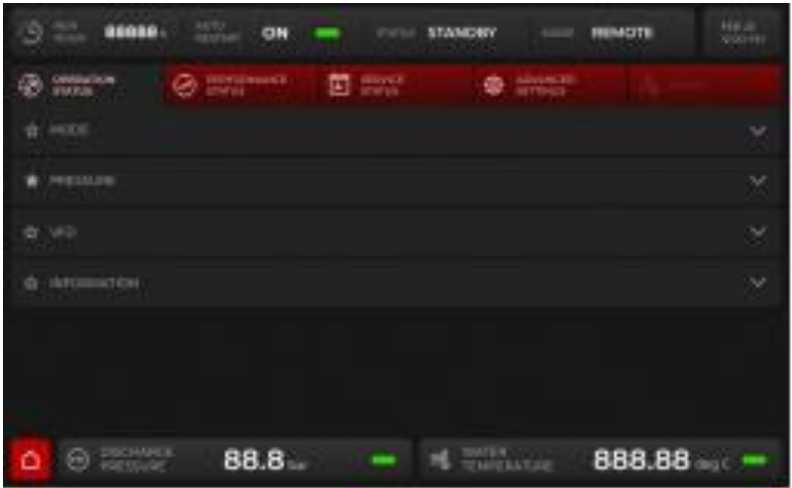
- Oil Temperature
- Discharge Temperature
- Seal air Pressure
- Live Motor winding Temperature
- Live Water Temperature
- Live Ambient Temperature

#### Third Window

- VFD Speed % (displays only if VFD enabled)
- VFD % (displays only if VFD enabled)
- Utilization

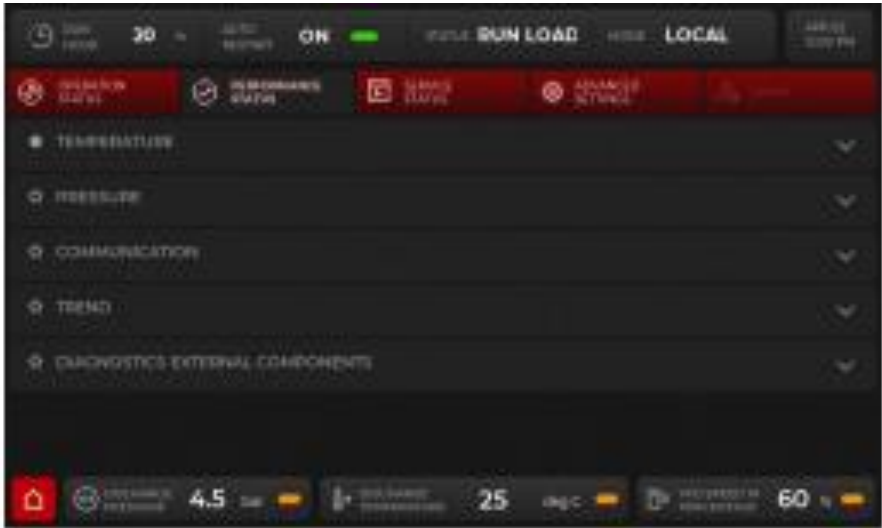


# Neuron IV Controller – Status Menu



Operation Status

Performance Status



Service Status

Advance Setting



# Gateway



# Stakeholders



Customers

Distributors

ELGi





Customer Value Proposition

# Air~Alert Value Proposition-Customers



**Improved Uptime**



**Improved Efficiency**



**Remote Monitoring**



## Improved Uptime



### No delayed or missed service cycle

Automated, proactive service alert via web notification enabling on time service of compressors. Helps in planning spares and booking service appointments at customer's convenient time



### On time service ensures efficiency & productivity

Maintaining at right intervals improves efficient operation and provides potential savings up to \$  
**XXX/month\***



### Detection & prediction of faults

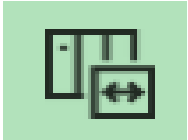
Detects faults and provides an alert to take immediate action. Predicts up to **44%** of failures ahead of and thereby minimizing downtime and significantly reducing unplanned maintenance costs.

\*Energy savings calculated based on EG 22 unit running beyond recommended service life of consumables (filters, AOS element & valve kits)





## Improved Energy Efficiency



### Insight on effective use of compressors

Tracks utilization of the compressors and enables customers to monitor improve energy efficiency of the compressor



### Energy savings up to 35%

By tracking the utilization of an air compressor, energy saving solutions such as VFD, appropriate sizing of compressor, optimal pressure band settings can be implemented with attractive RoI. Savings up to **\$ XX,XXX/year\*** with energy saving solutions



### Leak Detection

Industry survey indicates 20% to 30% of the produced compressed air is lost due to leakage. Based on continuous utilization pattern study and changes in processes can help estimate deterioration in compressed air system. Savings potential up to **\$ XX,XXX/year\*\***

\*Savings calculated based on EG 22 operating parameters. VFD savings for 70% flow operating conditions and 0.5 bar g pressure band optimization

\*\*Assuming 10% leakage from EG 22 flow



## Remote Monitoring & Actionable reports



### **24/7 online remote monitoring of key parameters**

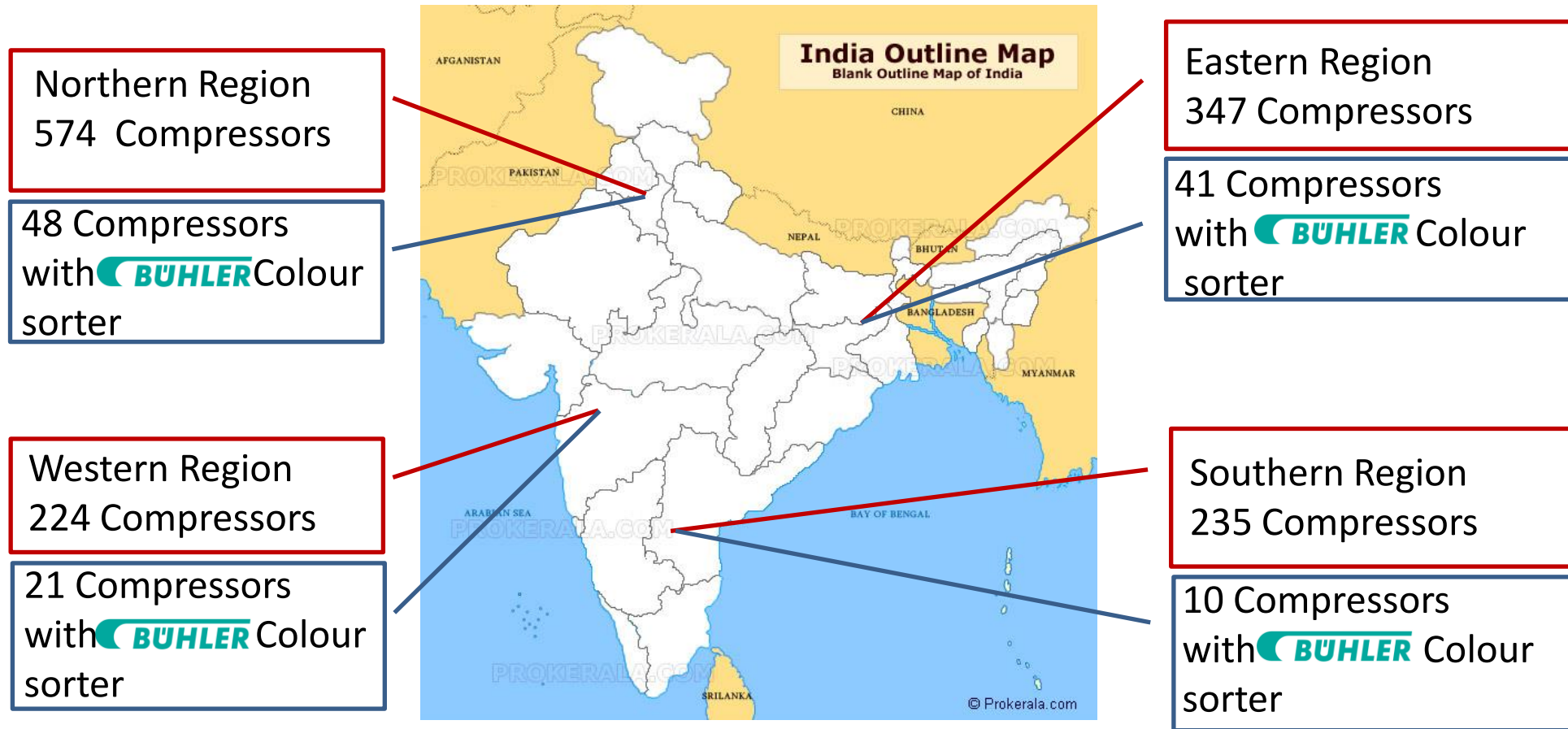
Live web interface on desktop and mobile screens that provides valuable trend graphs and information on key operating parameters such as discharge pressure, oil temperature, trips & alerts etc. enabling remote access from anywhere in the world



### **Periodic reports**

Provides summary and detailed reports and upcoming service needs. Automated, periodic reports on compressor health, utilization, fault & trip alerts

# References in India – ELGi Compressors in Rice Segment



# PROVEN RESULTS in Thailand Rice Segment

Customer Name	Address	Compressor Model	Segment
Chia Meng Rice Mill	Nonthaburi	EG75VFD	Rice
Somboon Puechphol Rice Mill	Suphanbur	EG75	Rice
Sirimongkol Rice Mill	Si Sa Ket	E22-10	Rice
Sri Thai Mai Rice	NONGBUALAMPH U	E22-10	Rice
Heng Somboon Rice Mill	Nakhonpathom	EG30	Rice
Sawangwinitin rice mill	Chai Nat	E11	Rice
Lomrak Thanya Rice Mill Pattana kamchai	Singburi	E30	Rice
Nongbour romudom rice	Nakornsawan	E22	Rice
Pakkanan Rice Mill	Phichit	E30	Rice
Petcharawan Rice Mill	Phichit	E30	Rice
Mahanakhon Rice Co.,Ltd.	Bangkok	EG22	Rice
Nong ta tam rice	Prajuabkirikhan	E22	Rice



Total of 18nos operating with the group with the oldest compressor being around 12 years old at Murzah Wilmar Rice Millers, Morogoro- Tanzania (JV between Wilmar and Murzah group\_

Post formation of JV we once again supplied 1 unit each of EG75 DV & EG45 DV in 2020.

Wilmar Tanzania group is satisfied with the operations of EG75 & EG45 and we are working for their new requirements for EG250 package for their Morogoro, Tanzania factory

**Adani-Milwar in India uses AC OFSAC's in their Gujarat Plant**

**Our Installation in Adani group: Mundra Power plant and the recently inspected OF450-2Nos for their Solar cell plant**

Reach us:

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# Thank You