



# **ENERGY**

MISSION OF TODAY

[www.fimel.pt](http://www.fimel.pt)





## About Us



**30**  
years

More than 30 years of experience in heating systems, industrial automation and industrial coating



**10**  
years

Almost 10 years in the wind power industry



**100**  
workers

Solid company with more than 100 workers

## Our Competences

- Heating Control Systems
- Heating Equipments
- Post-Curing Machines
- Curing Ovens for Root Joints
- Robotic Cutting Units
- Robotic Sanding Units
- Robotic Painting Units
- Displacement Machines
- Web Lifters
- Resin Mixing Machines
- Vacuum Generation Units
- Painting Booths
- Technical Support 24H/Day

# ENERGY MISSION OF TODAY

## Certification



改善

KAIZEN: CONTINUOUS IMPROVEMENT



INDUSTRY



ISO 9001

# Heating Systems

## A Fimel Standard

Fimel designs and produces heating systems for a wide range of equipments, from thermal treatment, to crosslinking and resin curing ovens.

Our extensive knowledge acquired in industry leading areas, such as the Automotive Industry, has allowed Fimel Automation Department to design and develop electronic temperature control systems, fully integrated with its heating or cooling units, whether electrical, gas, or heat exchanger powered.







## Mold Heating Control Systems

- User friendly HMI controls overall process
- User access management
- Operating modes
- Programmable Heating Ramps and Cuing Cycles
- Heating control system composed of electrical cabinet of power distribution and field boxes
- Reading of PT 100 or TC temperature probes
- Individual control of heating zones
- Temperature and vacuum charts

# Project Solutions

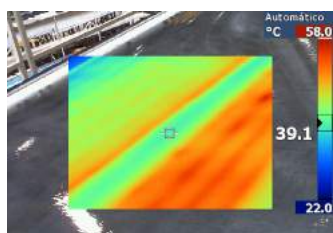
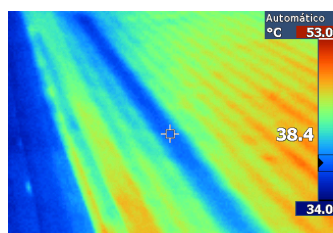
Working together



Fimel works in close co-operation with its Customers from day one to offer specific Project solutions.

Modularity and Flexibility are key advantages of our Heating Control System: not only it provides high levels of curing reproducibility but also the possibility of overall control and supervision of the production

process, by integrating the control of several peripherals into main control unit, more specifically vacuum, cooling, heating or global monitoring devices.



## Modularity

- Extendable to extra heating zones
- Integration and control of:
  - Mold vacuum systems
  - Peripheral cooling and heating units
- Temperature and Vacuum Probe scaling



## Data Management

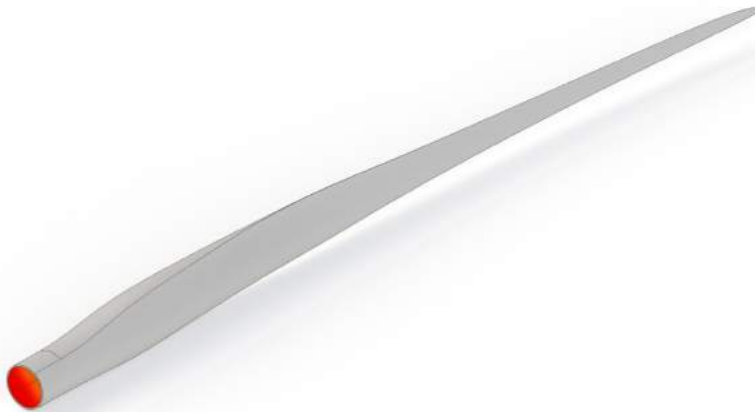
- Reports, Charts, Process Parameters are exported to Excel files and can be stored in local or Sever folders for Process analysis
- User access import/export
- SQL Connectivity
- OPC UA Server



# Designing the Future

As an Equipments designer and manufacturer, Fimel S.A is fully committed to the development of technical solutions that meet the most demanding specifications of each production process.

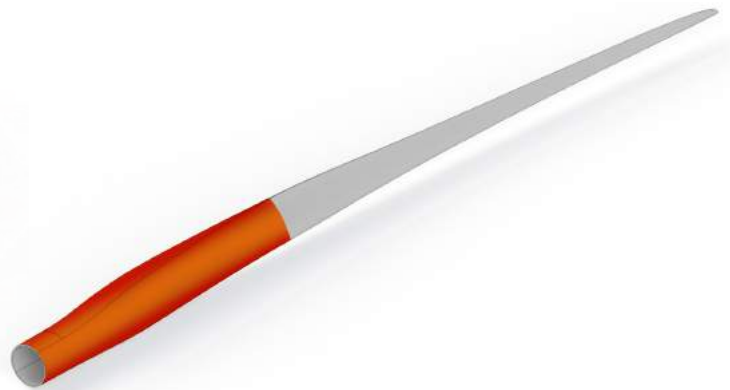
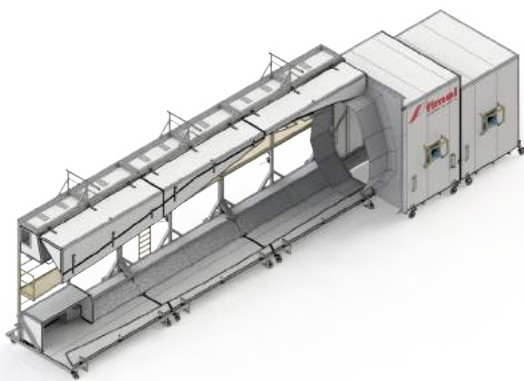
Every restraints are taken into consideration in the process of designing and producing the most cost-effective and high performance equipments, assuring the curing cycles. Several functionalities of our Mold Heating Control System are replicated into the control systems of our curing equipments; our extensively validated HMI and PLC control solution provides the ability to fully control the curing process and data analysis.



## Internal Curing

- Design according blade specifications
- Root internal curing
- Integration with Fimel Mold Heating Control Systems
- Curing recipes and Data Management
- Remote access

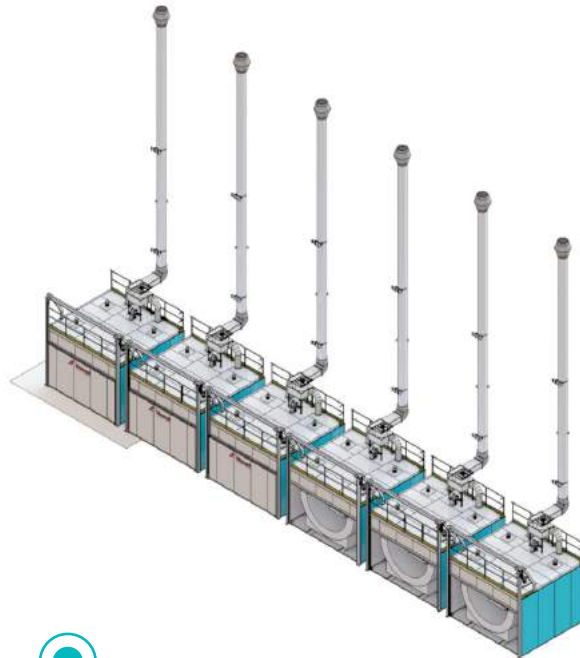




## External Curing

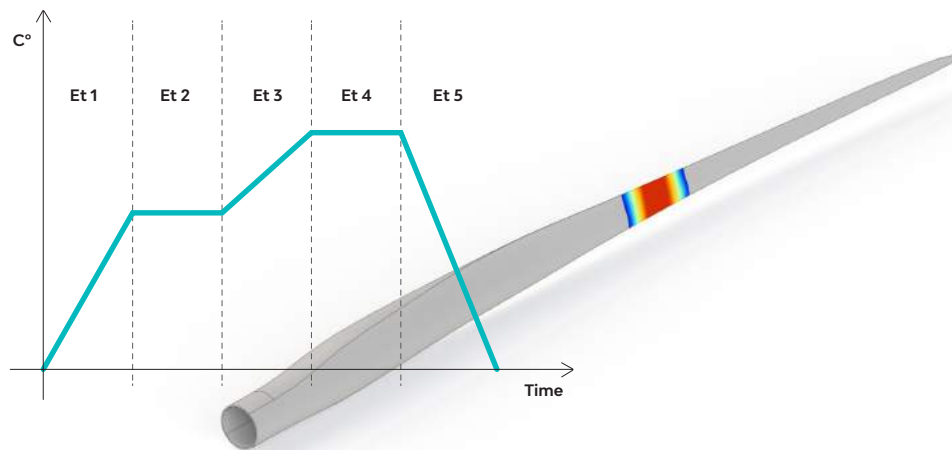
- Design according blade specifications
- External curing of reinforcements, on LE and TE
- Curing recipes and Data Management
- Extendable modular units

# Root Joints Curing



- Gas / Electrical Heating systems
- Integrated vacuum system
- Curing recipes and Data Management
- Remote access

# Flash-Off and Paint Curing



- Design according blade and paint specifications
- Flash-Off and Curing on local surfaces
- Curing recipes and Data Management

# Robotic Production Units

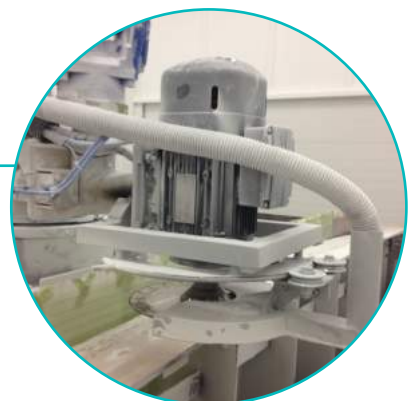
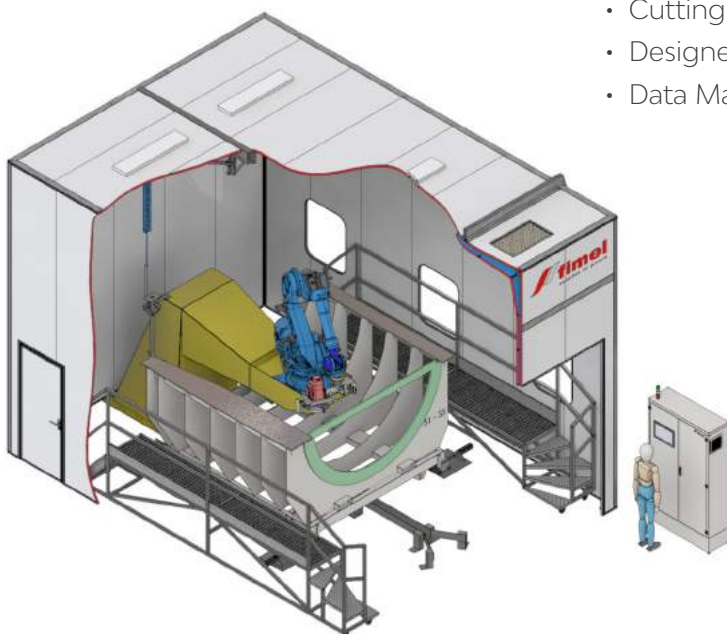
Turn-Key projects, no less

Automation and Robotics have played a major part on Fimel's establishment as Key supplier among Industry.

Throughout the years Fimel has designed and installed several Robotic Cells, from Automated Paining Cells to Automated Cutting or Sanding Units. Our global approach has allowed us to combine several Engineering areas such as ventilation, heating, artificial vision, automation to fully develop Production Cells capable of the highest production and reproducibility rates. CAD design and simulation, structure manufacture, electrical project and Installation, robot programming, and global project automation are part of Fimel's competences.

## Robotic Cutting Cells for Root Joints

- Cutting Cell with integrated robotic cutting system
- Designed according to Roots dimensions
- Data Management







## Robotic Sanding Units

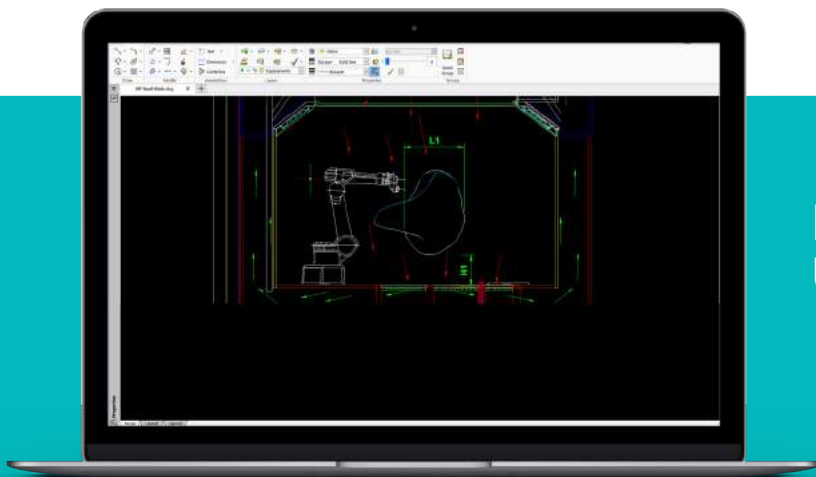
- Automatic adjustment to blade contours
- Roughness control
- Dust extraction unit



# Industrial Painting

Industrial painting has always been a part of our history.

Fimel designs painting equipments for several industry applications; from powder painting to liquid (water-base or solvent) painting, from metal to plastic and resin coating, Fimel has designed from the most simple to the most complex fully automated plants, capable of coping with the most demanding specifications.



## Robotic Painting Units

Cost-effectiveness, high performance, reliability and low maintenance are the basic pillars of our design; each project is evaluated individually by a multidisciplinary team focusing on the best results in each step of the process: surface treatment – sanding, blasting, cleaning, drying – painting and curing.



## Painting Booths





# Special Equipments

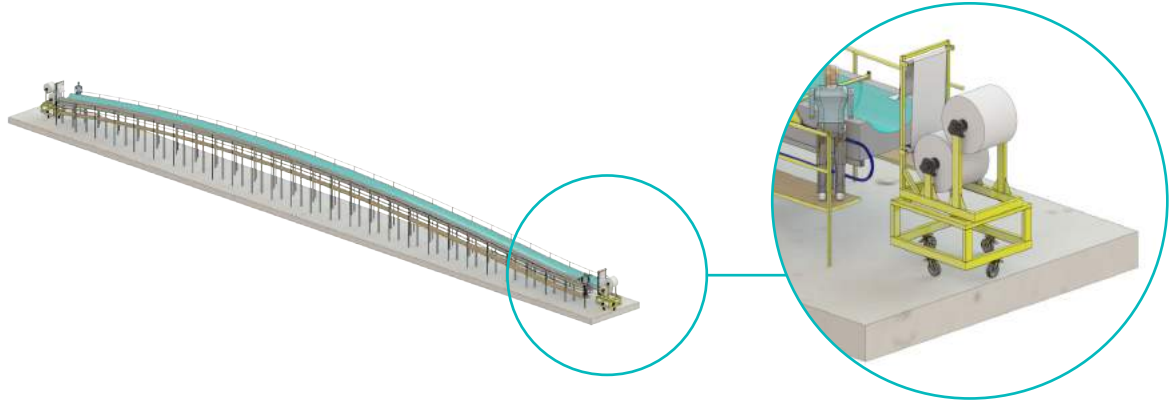
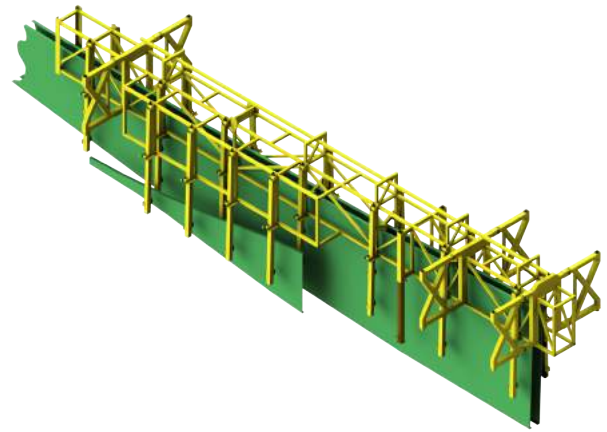
Fimel established itself as in-house full capability company over the years; CAD, Structural design, CNC, Welding, Surface Treatment, Electrostatic Painting, Electrical Assembly and overall Automation enable Fimel to cope with the most intricate designs and machine functionalities, aiming at a wider range of applications, in a constantly evolving market.



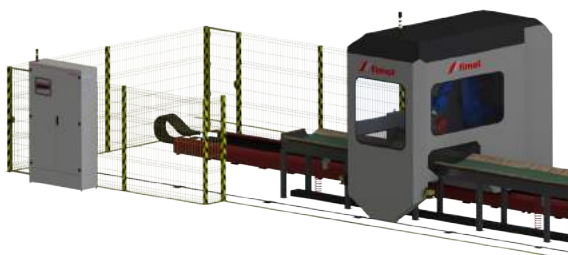


## End Web lifter, Girder Lifter

- Part specific design
- Metal structure.
- Vacuum suction units



## Fiber laminate dispenser, Cutting units



- Motorized fiber dispenser
- User operated
- Movable structure, adaptable to several configurations
- Automatic Girder cutting units
- Overall automation controls cutting process
- Equipped with automatic extraction unit



## Resin mixing machines

- Electronic controlled dosing equipment for 2K and 3K resins
- Flow mixture control
- Pneumatic dosing systems
- Resin cleaning system



## Vacuum Units

- Electronic controlled Vacuum System.
- Programmable Vacuum cycle.
- Manual and Automatic operation modes.
- Fully integrated with Mold Heating Control System

# Technical Assistance

Ensuring your productivity,  
day by day



## Services

- Remote access
- Thermographic analysis
- Insulating repairs and laminating
- Temperature probe validation
- General electrical repairs





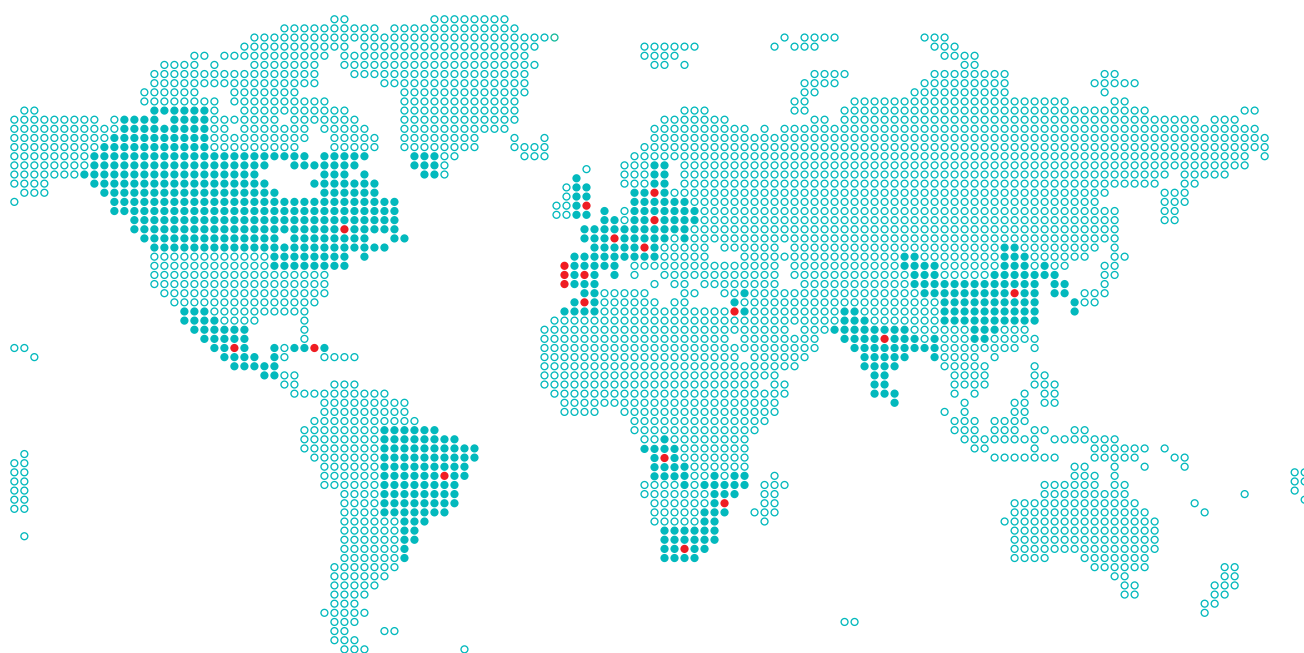
# We are Connected





# Fimel

## Around the World



### Europe

Denmark  
England  
France  
Germany  
Poland  
Portugal  
Spain

### America

Brazil  
Cuba  
Canada  
Mexico

### África

Angola  
Morocco  
Mozambique  
South Africa

### Asia

China  
India  
Israel





# **ENERGY** MISSION OF TODAY

[www.fimel.pt](http://www.fimel.pt)

**Address**

Fimel

Indústria de Metalúrgica e Eletricidade, S.A.

Apartado 29. 3754-908 Aguada de Cima

Águeda - Portugal

**General Services**

Phone +351 234 660 880

Fax +351 234 660 881

**E-mail**

[fimel@fimel.pt](mailto:fimel@fimel.pt)

**Website**

[www.fimel.pt](http://www.fimel.pt)

