

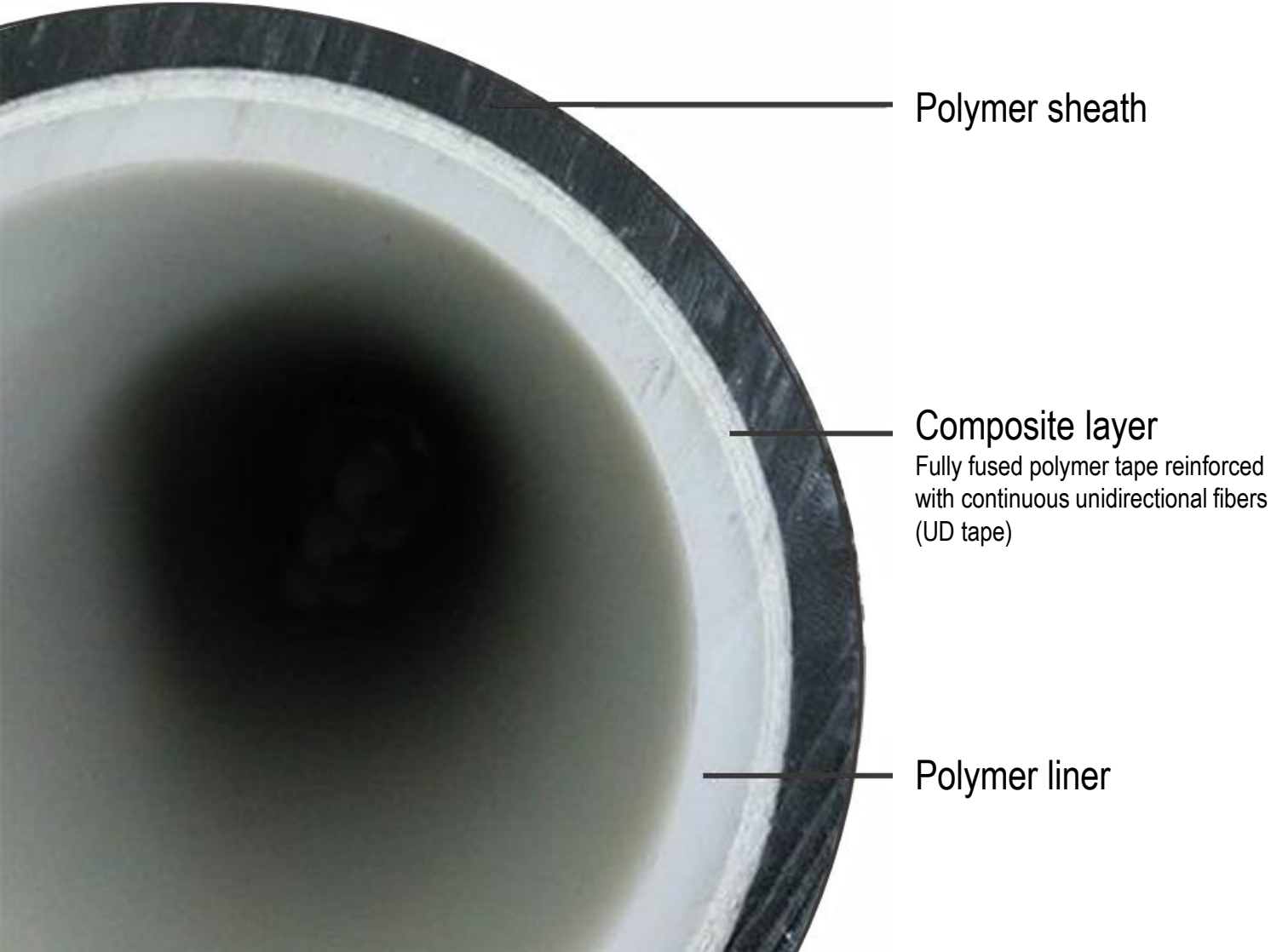
Thermoplastic composite pipe | Reinforced Thermoplastic Pipe

# Thermoplastic Composite Pipe Manufacturing Equipment

for the oil fields

TCP TURNKEY PLANT

**FARTROUVEN**  
Research and Development



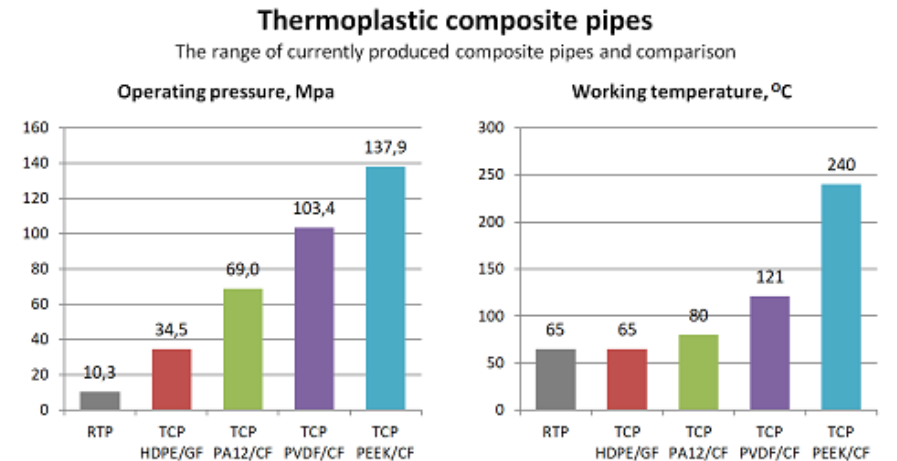
## Production complex

is designed for the manufacture of flexible **Thermoplastic composite pipes (TCP)** and *Reinforced Thermoplastic Pipes (RTP)*

**Diameter range:** 2-10 " (ID)

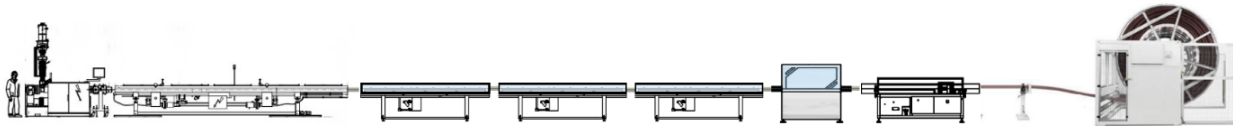
**Operating pressure:** 4,0... 137,9 MPa (600 ... 20 000 psi)

**Qualification:** API RP 15S, DNVGL-ST-F119

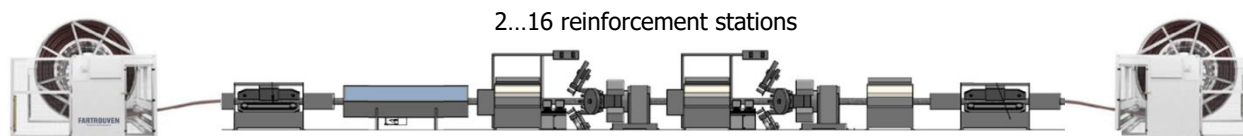


## THREE STAGES

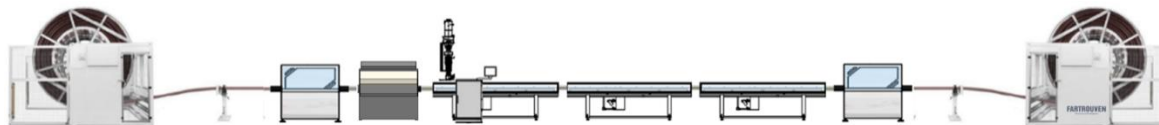
### STAGE 1. Liner manufacturing



### STAGE 2. Formation of the reinforcing system



### STAGE 3. Applying a polymer sheath



## MANUFACTURING PROCESS

The process is divided into 3 stages. This allows you to carefully control the manufacturing process of all TCP layers, improving the quality of the pipe as a whole. It also facilitates the implementation of repeated reinforcement cycles.

In the technological cycle of TCP manufacturing, before the formation of the reinforcing system, the liner settles for 6..24 hours until the shrinkage process is completed. This will prevent the occurrence of stresses in the “liner-reinforcing system” boundary layer, as well as increase the resistance of the pipe to delamination at high pressures.

The three-stage manufacturing process also allows for flexible placement of equipment in the production area.

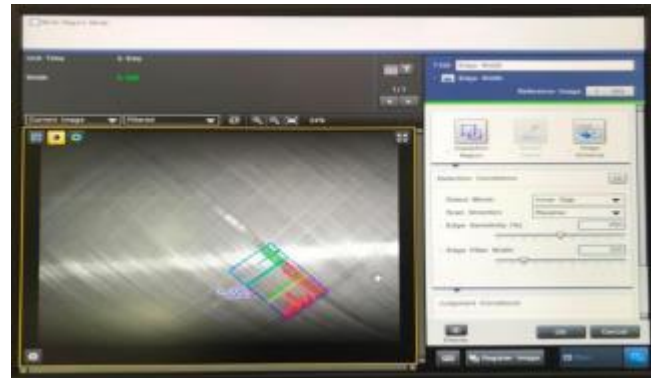


## HIGH-TECH EQUIPMENT



EQUIPMENT & SERVICE

## Automated Process Control



## ENGINEERING

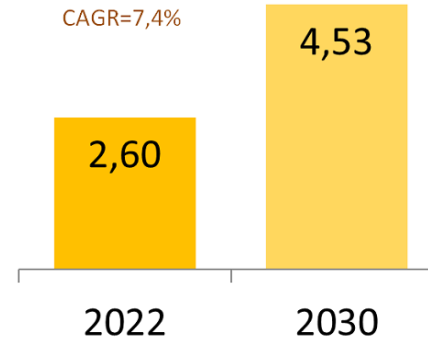
Optimization of production equipment specifications to solve consumer problems.

Flexible solutions to achieve the best performance and high quality finished products

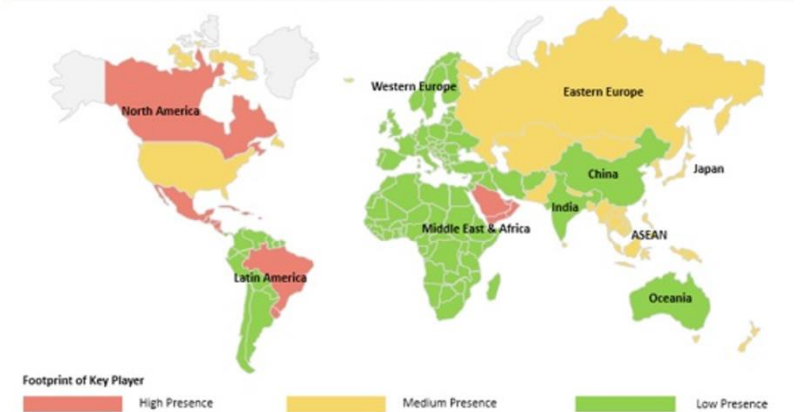
## COMPETITIVE ADVANTAGES AND A GROWING MARKET

Extended service life of oil and gas pipelines  
 Ease of installation and lower cost of ownership  
 Cost of ownership of TCP pipelines is 30% lower than carbon steel pipelines

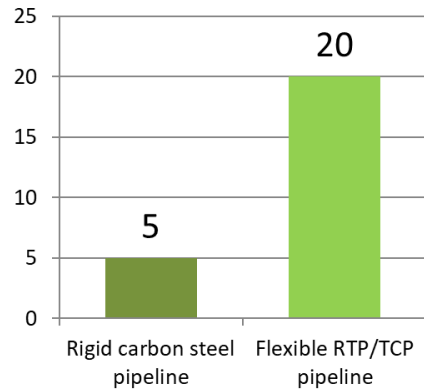
The global thermoplastic pipe market 2022-2030, \$ billion



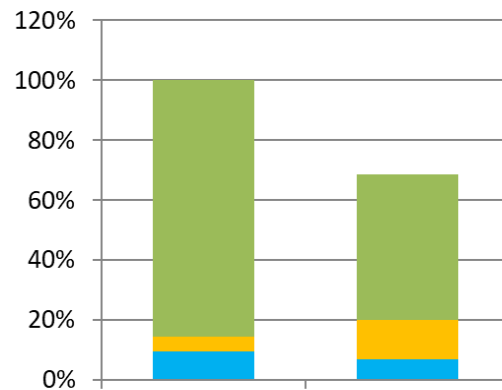
Global RTP Market: Key Player Regional Footprint



Service life of oil and gas pipelines, years



INSTALLATION COST Rigid Steel vs Flexible TCP



- Installation
- Flowline materials
- Project Management & Engineering

Source: Strohm

Source: Avery A and Martin S. Reinforced thermoplastic pipe – Innovative technology for onshore field developments. In: Proceedings of the 22nd international conference on offshore mechanics & arctic engineering. Cancun, Mexico, 2003

Source: Globe Newswire

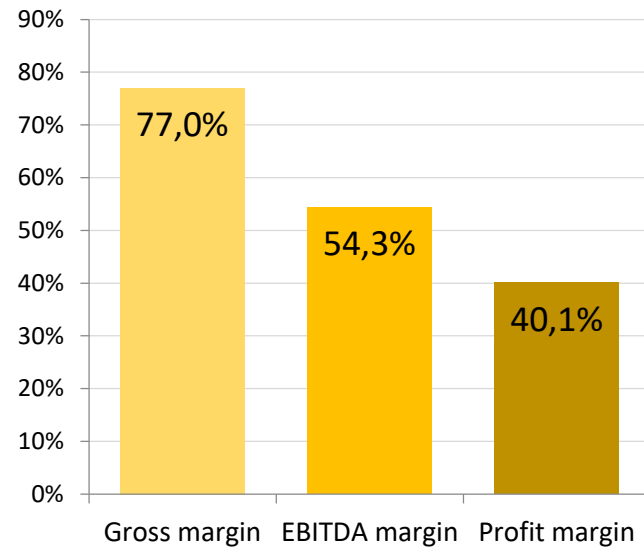


ON LAND AND IN THE SEA

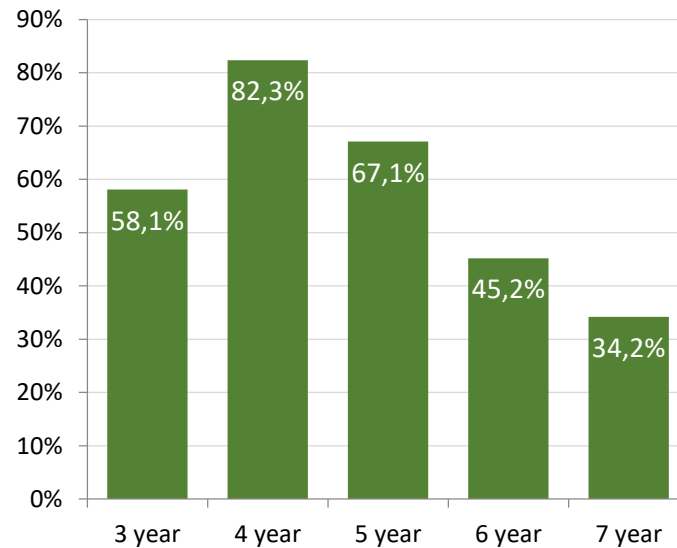


## HIGH BUSINESS PROFITABILITY

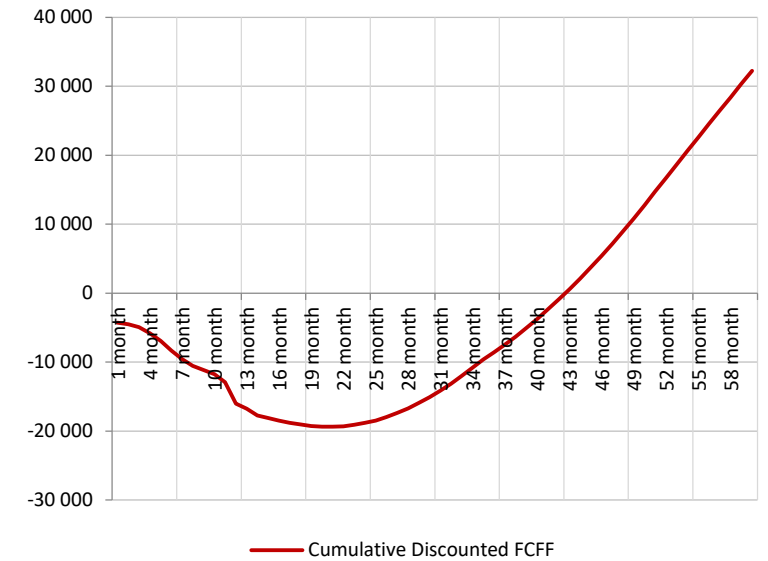
### Project cost effectiveness



### ROI



### Project payback schedule



# Thermoplastic Composite Pipe

*Reinforced Thermoplastic Pipes*

# CONTACTS

## A VIDA É BOA!



Soluções inovadoras para a fabricação de tubos compósitos



### FARTROUVEN R&D

Rua Campo de Futebol, 308 Ruivaqueira 2425-480 Souto da Carpalhosa, Portugal

Tel. +351 244 130 855

e-mail: [plant@fartrouven.pt](mailto:plant@fartrouven.pt)

Web: <https://fartrouven.pt>

**FARTROUVEN**  
Research and Development