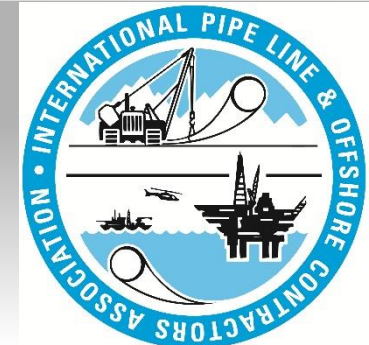




**IPLOCA Novel Construction Fall Session 2021**

**Future-Focused Equipment Concept  
using the Example of a Welding Tractor**

**Wednesday, 27.10.2021 | Boris Böhm | STREICHER Group**

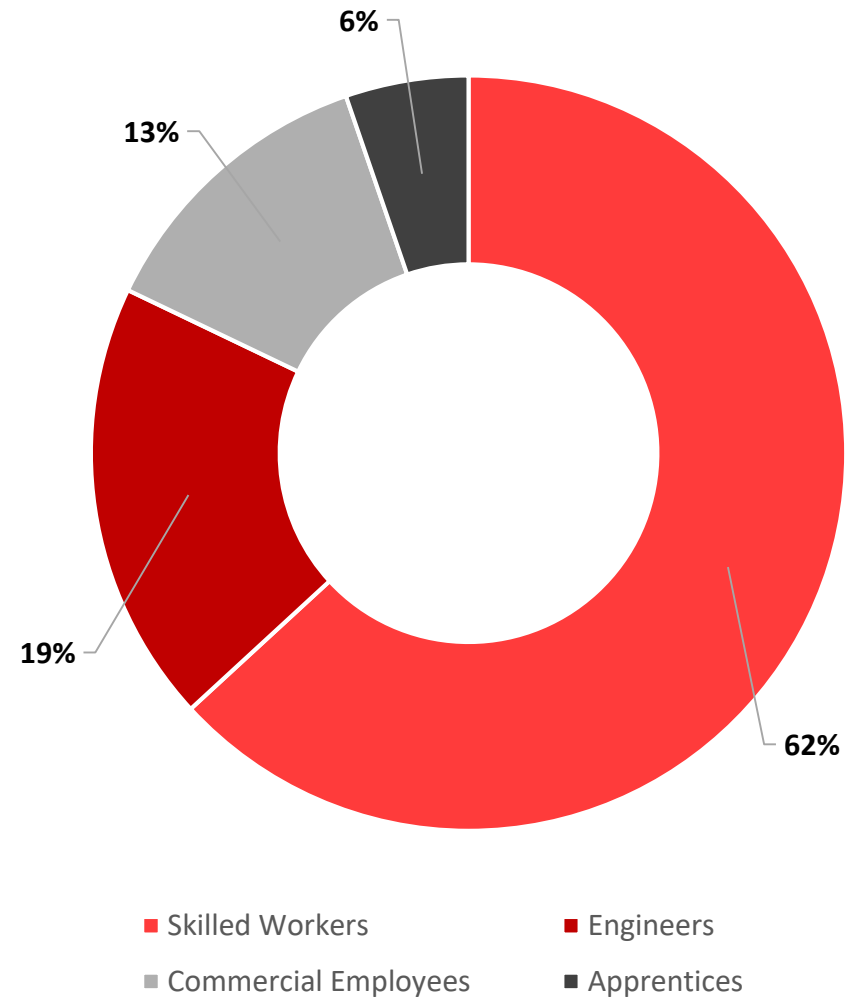




# MAX STREICHER is a system provider for the entire energy infrastructure



- More than **100 years of experience**
- Technically experienced, flexible and innovative in the business sectors of **pipeline and plant construction, mechanical engineering, civil and structural engineering** as well as **raw and building materials**
- Around **4,000 dedicated employees** at more than **30 locations worldwide** work on regional, national and international projects under the highest quality standards and technical precision



Pipelines & Plants



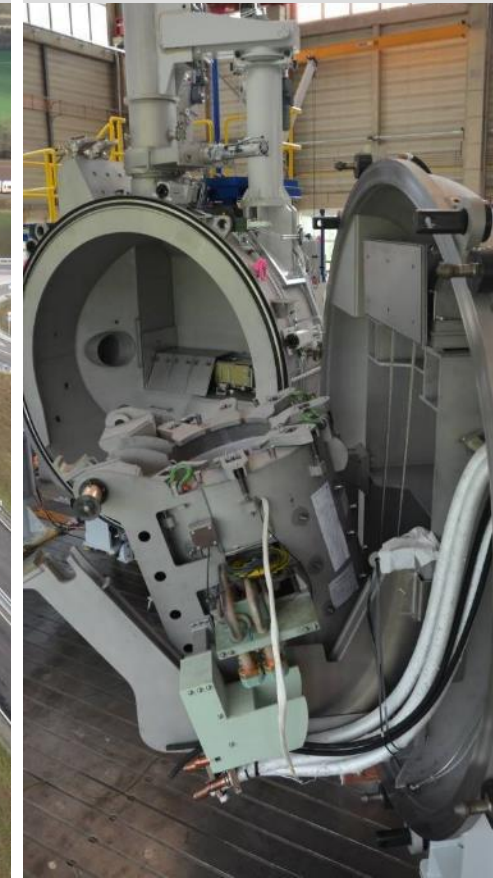
Raw & Construction Material



Civil & Structural Engineering



Mechanical Engineering





**Pipeline- & Power Cable Construction**



**Plant Construction**



**Local Network Construction**



**Vertical Drilling**



**Horizontal Directional Drilling**



**Services**





**Road Construction and Civil Engineering**



**Bridge Construction and Civil Engineering**



**Hydraulic Engineering**



**Landfill Construction**



**Industrial Construction and Structural Engineering**



**Conduit Construction**





**Asphalt Mixing Plants**



**Quarries and Gravel Mills**



**Sand and Gravel Extraction**



**Construction Material Acceptance**





**Apparatus Engineering**



**Special Equipment Engineering**



**Drilling Technology**



**Process Engineering**



**Manufacturing of Amusement Rides**



**Modeling Machines**



# Why „Future-Focused Solutions“

Do we need a change?  
Why do we need a change?  
Why are Future-Focused Solutions needed?



# Why „Future-Focused Solutions“

- There is **only one Mother Nature**
- **Ecological awareness** is mandatory
- Think global - **Act local**
- **Think big but** make **realistic** steps...
- ...without creating stumbling stones



# Why „Future-Focused Solutions“

- Green Deal **commitment is mandatory** to create transition to a modern, resource-efficient and competitive economy
- Quantifiable goal -> **Net Zero by 2050**
- Climate protection **targets are ambitious**
- **Challenges & opportunities are enormous**
- **Attention** has been **shifted towards the role of industry**



# Reasons for „*Future-Focused Solutions*“

- The **Energy sector** is a major source of global **emissions...**
- ...and must therefore **take responsibility**
- Local as well as international **political commitment** is **indispensable**
- **Lobbying** by associations and federations is **imperative**



- Individual contribution is mandatory
- Sustainability is more than a buzzword
- Sustainability means future viability
- Need to take sustainability seriously
- Find right approach for your own company



# Path to „*Future-Focused Solutions*“

- Challenge is to integrate sustainability in a holistic way
- Find a way of dealing with sustainability for our industry
- It is about sustainable innovations
- Detection and decoding of “the secret” is necessary in order for sustainable innovations to be successful
- **explore your chamber with hidden solutions...**



# Our path to „Future-Focused Solutions“

Our understanding is, that sustainable innovations are particularly promising when:

- Approaches are comprehensible
- It is easy for clients to bridge value-action gaps
- The supplier acts holistically
- The supplier is authentic



# Our path to „Future-Focused Solutions“

- Act whenever realistically useful & possible
- Even simple solutions can save resources
- Inform about possible solutions and thus promote the desire to act sustainably
- If necessary, accept unconventional paths to realise sustainability
- Use your individual experiences...

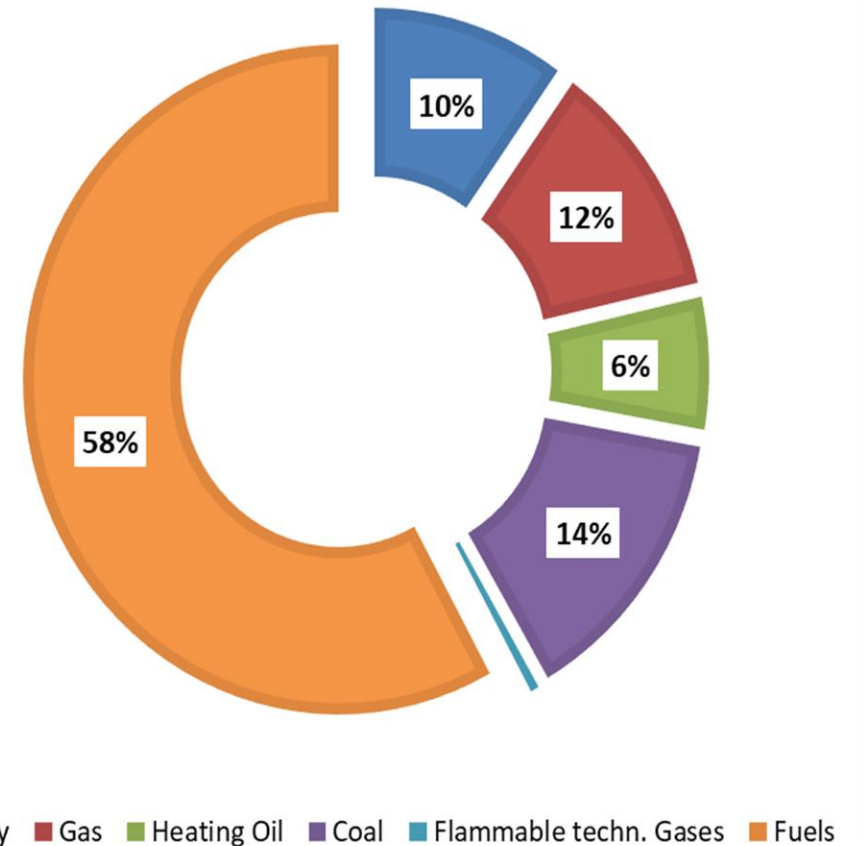


# Our path to „Future-Focused Solutions“

- Within the framework of the continuous improvement of environmental protection, one of the main objectives is to **increase the resources and energy efficiency** at the workshops, construction sites and also with regard to products and solutions
- The graph for the distribution of demand for energy within the STREICHER Group clearly shows that the consumption of fuels with 58 % of the total energy need constitutes the largest part

→ **58 %**  $\hat{=}$  **108 million kWh**  
**11 million litres diesel**

Distribution of Energy Consumption of STREICHER Group 2019





# Our path to „Future-Focused Solutions“

- Practical experience and multi-layered competences within the Streicher group enable us to realize Eco-Sensitive Solutions by building some of our own equipment, which are e.g. powered by electricity, hydrogen or a fuel cell
- These solutions are bundled under the label "ecotec"
- The simultaneous focus on all Health & Safety aspects is an indispensable part of our solutions, resulting in the fact, that **Safety and Sustainability are inseparable according to our overall mission & understanding**



# Our path to „Future-Focused Solutions“

- Our Future-Focused Solutions derive from our daily operational practical work & ...
- ...from the demands we oppose on ourselves
- The most prominent ecotec solutions are currently...
  - > our innovative electric crawler unit concept &
  - > our series of all-electric HDD rigs



# Our path to „Future-Focused Solutions“

- The by our welding & project crews defined technical specifications plus our values according the STREICHER vision & mission could not be met by devices available on the market
- An equipment concept had to be developed, that is on one hand suitable to **improve the safety** for personnel working directly around the pipe and to **minimize possible environmental emissions** through the application of an electrical drive system

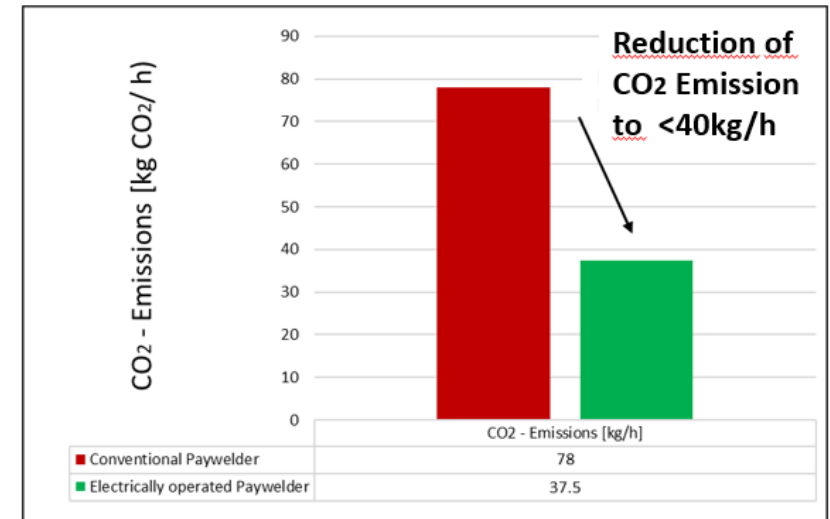
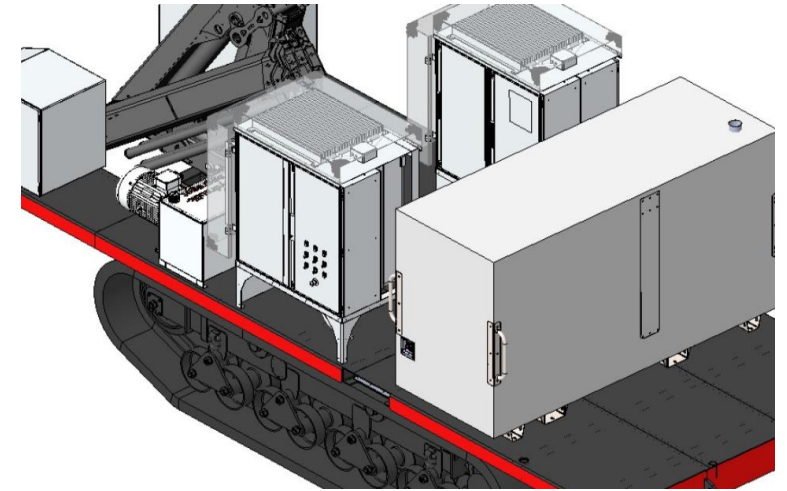


# Our PW150-E as „Future-Focused Solution“

- Equipment concept for **multifunctional use**
- High performance **electric power train**
- Reduction of diesel consumption & CO<sub>2</sub> emissions
- Reduction of operating & maintenance **costs**
- Highest level of **environmental protection** and **unique safety features**



- One single engine to drive all functions...**  
 ...in combination with the described high performance electric power train concept results is an approx.
- > **Reduction of fuel consumption by >52%** &
- > a **minimized CO<sub>2</sub> emission of <40 kg/h** during operation, which results in almost half of the emissions compared to conventional devices



# Our PW150-E as „Future-Focused Solution“

- **Flexible** in all respects
- Electric drive system guarantees **precise** control
- **Integrated safety brakes** reliably prevent unintentional driving movements
- Low-vibration and silenced power train reduce **noise level** to a possible **minimum...**



**Noise reduction is an important tool for the protection of physical and mental health**

# Our PW150-E as „*Future-Focused Solution*“

- Complete operation via **one combined** and ergonomic designed **radio remote control**
- **Intuitive control** of crane and drive system
- **No need to switch** between different **control panels**
- **Free choice of operator location** for a perfect view of the entire work area **ensures maximum safety** for all personnel involved



# Our PW150-E as „Future-Focused Solution“

- Suited for any terrain
- The crawler chassis and the drive components guarantee high ground clearance
- Designed for extreme off-road conditions
- Significantly reduced ground pressure by the wide and large track shoes





## Our Future-Focused PayWelder Concept results in:

### STREICHER PW150-E

- Dimensions (LxBxH): 7.50 x 2.95 x 3.14 m
- Total weight: 17 t
- Supplementary payload: 2.7 t
- Ground clearance: 0.60 m
- Forging depth: 1 m
- Rotation radius: 0 m
- Ground pressure: 470 g/cm<sup>2</sup>
- Ambient temperature: -20°C bis +45°C

### Chassis

- Drive system by electric motors
- Width per track unit: 0.75 m
- Wheel diameter: 0.694 m
- Integrated track unit pretensioner
- Metallic embedded rubber chain

### Lifting crane

- Capacity: 11.5 tm
- Range: 12.8 m
- Integrated automated folding and unfolding device
- LED-illumination

### Operation

- Combined, intuitive radio remote control: Control of crane and drive operation
- Emergency operation for crane and drive operation
- Warning lights and acoustic warn signals during driving operation

### Power generator

- Performance: 150 kVA
- Voltage: 400 V AC
- Frequency: 50 Hz
- Isolation monitoring accd. to DGUV 203-032 integrated

### Alternative power supply

- Feed-in via public power net possible

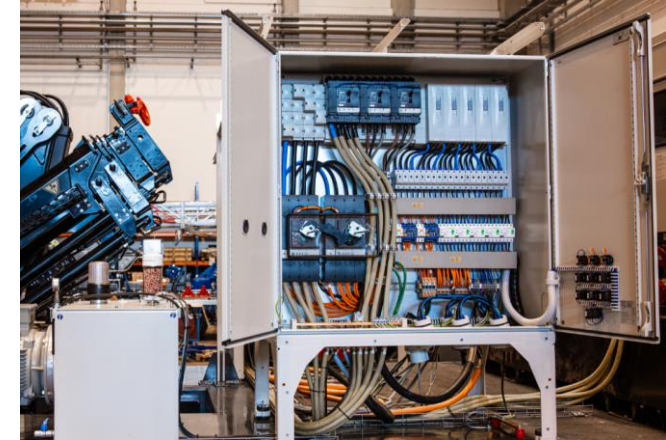
### Other

- Two tool boxes as storage device for working materials
- Lashing eye and towing eye front and rear
- Charging station including spare battery for radio remote control
- 4 LED head lamps
- ...



## Our Future-Focused Equipment Concept results in:

- Improved safety for all processes and work on job sites
- Future-Focused and even beyond state of the art integration of maintenance-free electronic systems
- Reduction of fuel consumption from 26 l/h to 12.5 l/h
- Reduction of CO<sub>2</sub> emissions by >50%
- Minimization of noise load for the employees & nature
- Reduction of possible contamination of nature through massively reduced quantities of oils and lubricants
- Reduction of operation & maintenance cost
- ...





# Thank you for your attention & Contact information



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