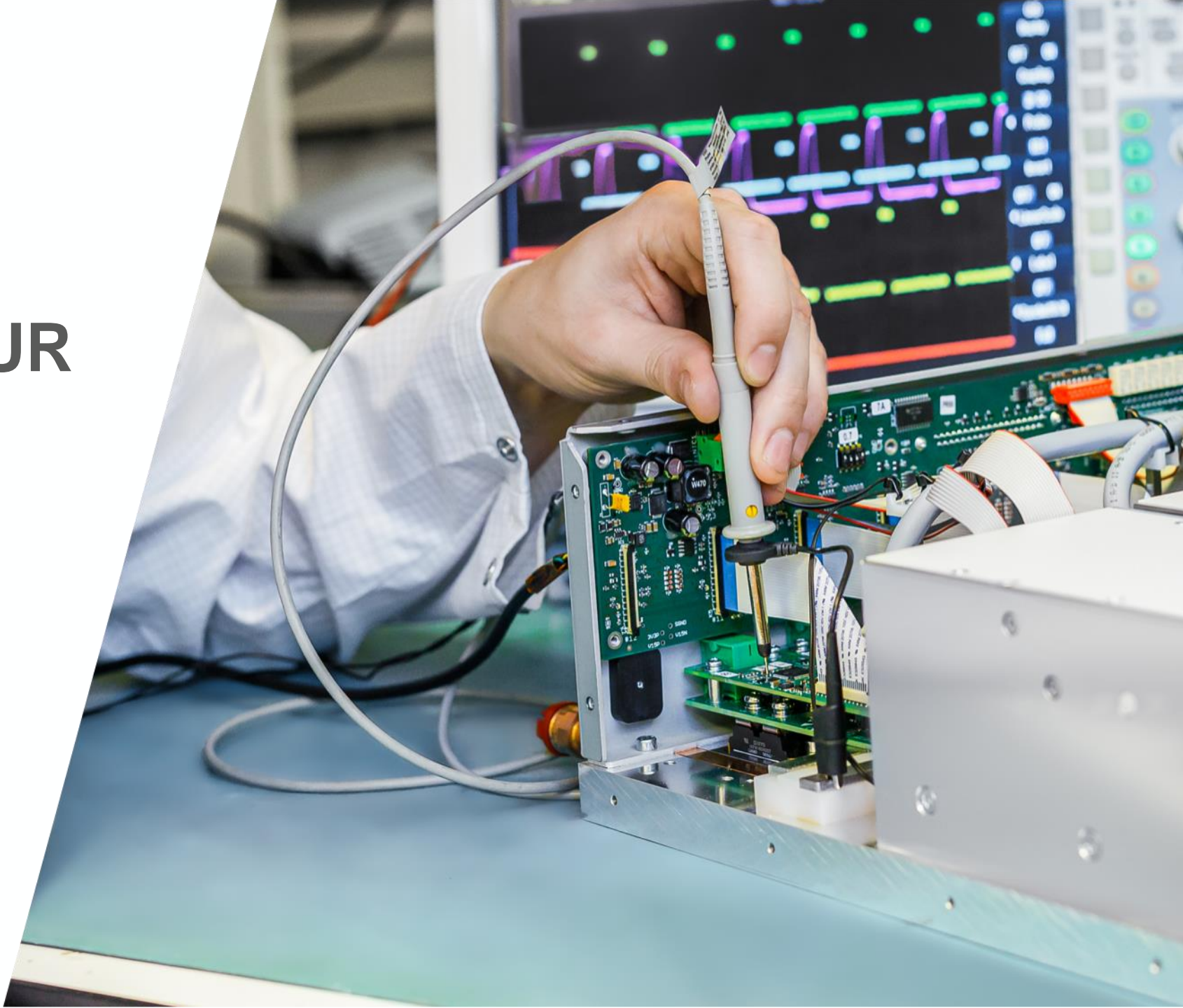




# POWERING YOUR INNOVATION

Webinar June 19<sup>th</sup>, 2020

Power supplies for laser welding  
applications



# PBF GROUP B.V.

## Powering your **Innovation**

High-quality power supply solutions, coils & linear drives

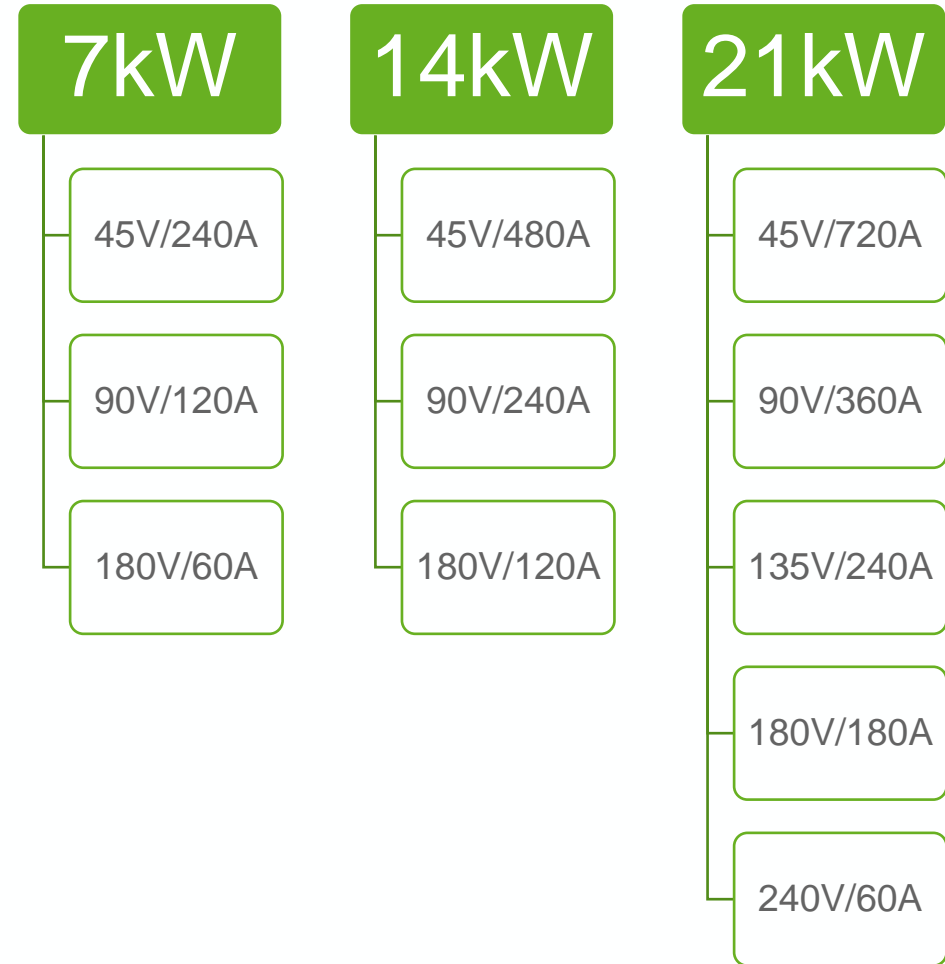
- HQ in the Netherlands/Almelo  
Subsidiary in Cluj-Napoca, Romania
- PBF Group B.V. emanated from Philips Electronics N.V.  
in 1999
- 120 Employees
- Member of the SFC Energy Group since  
December 2011



# Power supply for lasers welding application

Main specifications PBF power supplies for laser welding

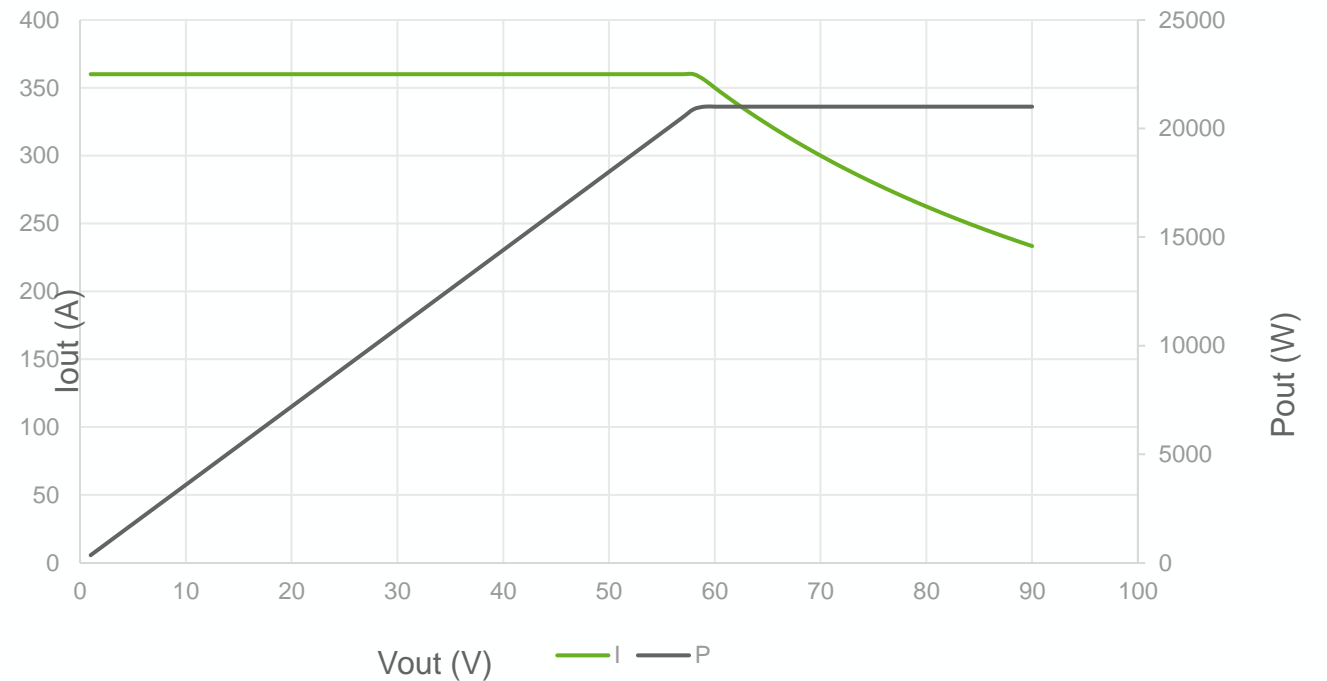
- 3 phase input
- **Current source**
- **Fast rise and fall times and no overshoot**
- Maximal output power over a wide output range
- Water cooled
- Low output ripple current
- Highest performance level possible for the **safety interlock**: PLe according to ISO-13849-1



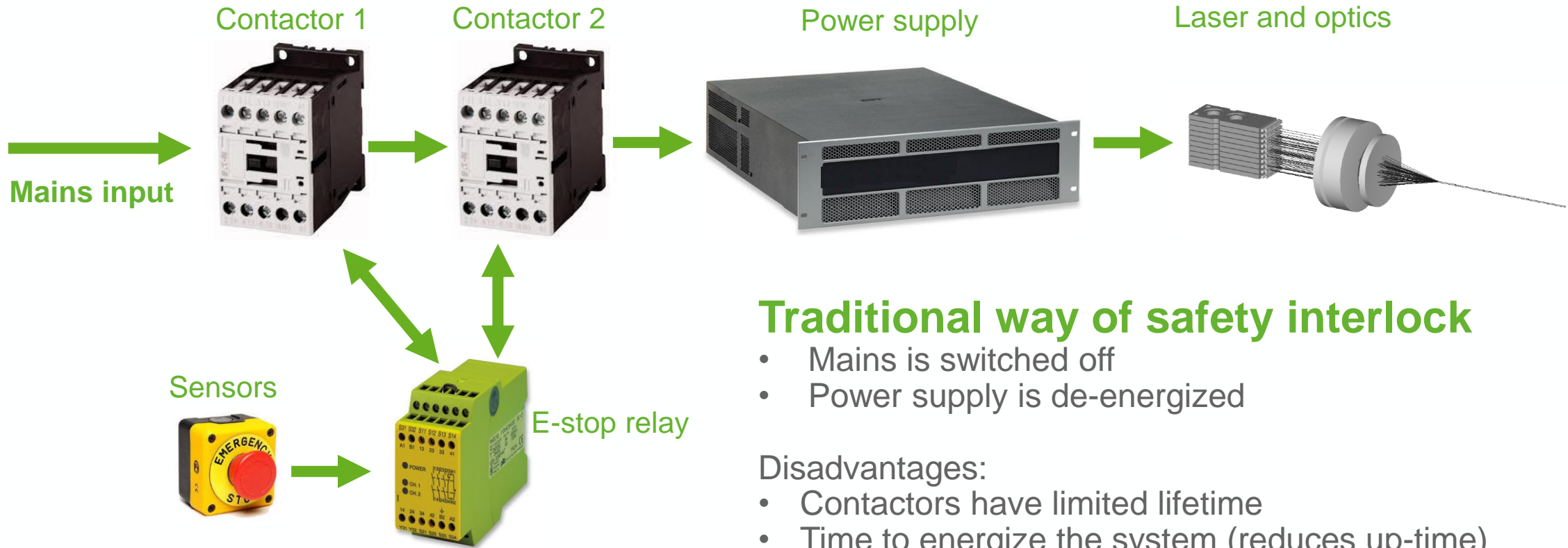
# Available output power LAPS21000

21kW available over a wide output range:

- Example: 21kW/90V/60A configuration:
- 21kW available from 59V to 90V



# Double safety interlock: Traditional way



## Traditional way of safety interlock

- Mains is switched off
- Power supply is de-energized

### Disadvantages:

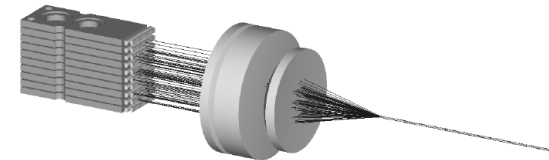
- Contactors have limited lifetime
- Time to energize the system (reduces up-time)
- Stress on power supply
- Inrush peak current in the mains net

# Double safety interlock: PBF way

Power supply:LAPS21000

Laser and optics

Mains input



Sensors



E-stop relay



## PBF way of safety interlock

- Only output power is switch off, power supply remains energized

Advantage:

- No contactors
- Very short time to energize the system (increases up-time)
- No stress on power supply
- No inrush peak current in the mains net
- Possibility to operate without safety relay

# PBF Laser power supply solutions

- 120W to 164kW range, 1 phase or 3 phase, 21kW for a single unit
- Voltage source or high speed current sources
- Specially designed for laser dynamic applications
- Water, baseplate or fan cooled



# Power supply for laser: LAPS3800

- Baseplate or water cooled
- Special designed to handle any pulsed loads
- Universal 3 phase mains input
- Can be put in parallel or in series
- 4 units fits in one 19" housing, resulting in 15.2kW
- Voltage programmable from 2V to 56V
- Excellent dynamic regulation



Can be used a front and for Diode bar and fibre laser current drivers



# Power supply for laser welding: LAPS7000/14000/21000

- 7, 14 or 21kW output power
- Different output voltages/current available
- Integrated water cooling
- Fast rise and fall times
- Double safety interlock (PLe)  
Eliminates the need of external safety components and optimizes system up-time

Benefits of using the LAPS21000

- Integrated safety interlock
- 21kW in 3HE (133mm) 19" rack



# Questions



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# CONTACT US

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