

Company Presentation



Good to Know

- Foundation 2000 following management buyout of DTI Robotics by the current management team
- Headquarter in Karlsruhe/Germany, 150 employees
- In-house Development, Manufacturing, Distribution and Service
 - Robot systems
 - Lateral Intake Rehabilitation
 - House connection rehabilitation
 - CCTV Inspection systems
 - UV-Technology
 - Mobile systems
 - Rehabilitation vehicles
- Worldwide distribution partners and service departments since November 2017 in Denver/USA

→ Full-range supplier for sewer rehabilitation

Worldwide Sales and Service Stations

- 2018: ProKASRO Services USA (PSU) - Centennial, Colorado
- 2019: PK Sud - Voiron Departement 38 (France)
- 2020: ProKASRO Maintenance and Service Point – Beijing (China)
- 2022: ProKASRO Service Station Leipzig supported by Ehle

Good to Know

Worldwide Sales and Service Stations



- Worldwide sales / service partners

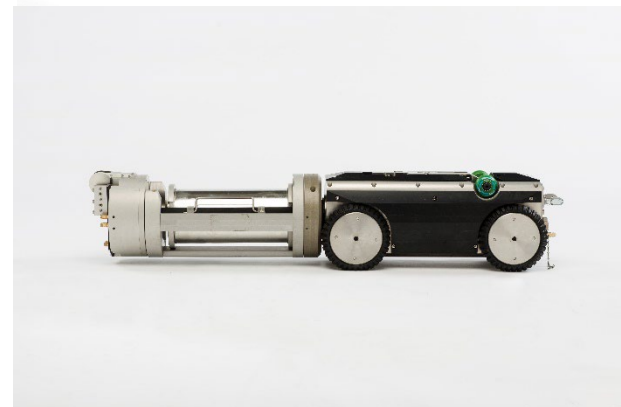
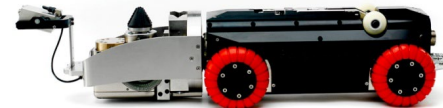
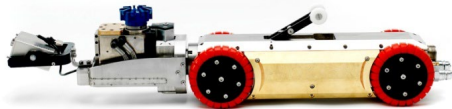
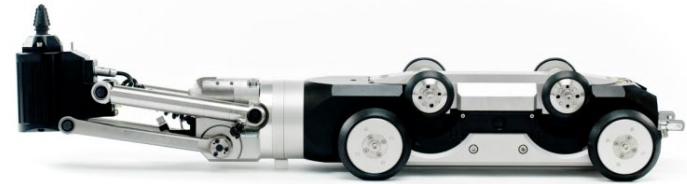
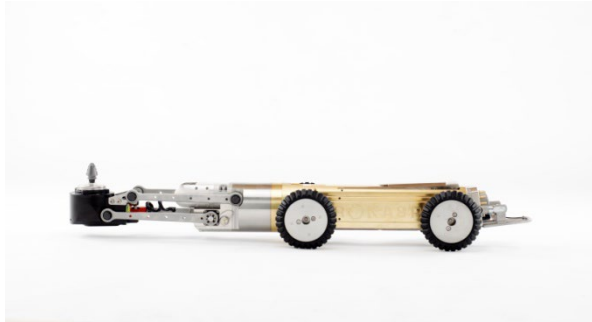
Product range

- Grinding and milling robot systems from DN 150 to DN 1200
- Lateral Intake Rehabilitation
 - Injection sealing
 - Laminated cap (top hat) placement systems
 - 2-component injection sealing system
- House connection rehabilitation
 - UV light train for DN 100 to DN 200
- CCTV Inspection systems
- UV pipe lining technology from DN150 to DN2000
- Mobile systems
- Rehabilitation vehicles

→ Full range equipment manufacturer for sewer rehabilitation

Product range of working robots

pneumatic – hydraulic – electric



Product range of working robots

Electric powered working robots

- Working robot 4.0 for DN 200-600
optional up to DN 800
- Working robot 1.7 for DN 130-400
- Robot and UV units sold on every continent
- Worldwide market leader

Advantages:

- Highest efficiency, up to 3000 W (3HP) motor performance
- High power and almost totally silent in operation
- Cutting motor does not require any cooling

Product range of working robots

Electric powered working robots



Electric CCU

- mobile, compact
- Rehabilitation can be operated from the rear of accessible properties
- complete control unit above hand-operated drum

Product range of working robots

Electric powered working robots



Rehabilitation vehicles

- Rehabilitation vehicle for the lowest possible total weight of 3.5t
- Rehabilitation in the narrowest streets becomes possible with minimal noise pollution
- Energy supply via battery packs, no Diesel or fuel consumption

Product range of working robots

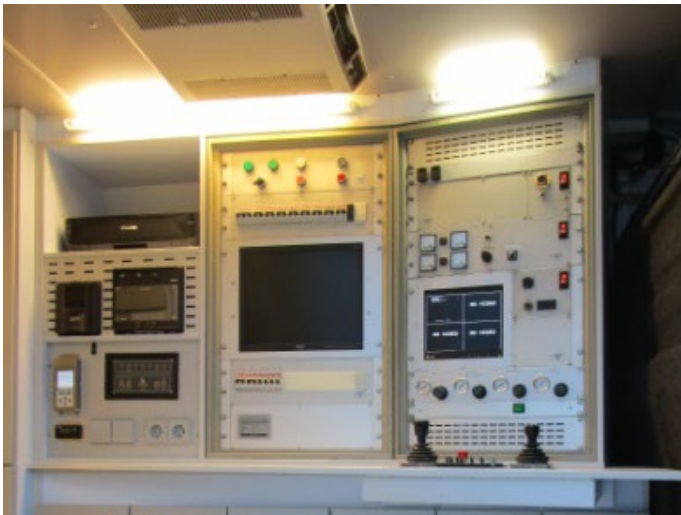
Conversion



- Possibility to convert an existing vehicle
pneumatic → electric
 - Exchange milling motor
 - Rebuild cable drum
 - Software update for the control unit
 - Replace generator through battery packs
 - Remove compressor

Conversion

6t Vario into a 7t Iveco – example of a customer



Product range of working robots

Hydraulic powered working robots



- Hydraulic robot for DN 250-600 optional up to DN 800
- Hydraulic robot for DN 150-250
- Rehabilitation vehicle with permitted laden mass of 5 t
- With trailer for spatula works from DN 250-600

Product range Lateral Intake Rehabilitation

2K injection sealing system

For pipe joints, cracks / fractures and lateral connections

Advantages:

- Material is injected directly into the damaged area
- hardens immediately

KASRO 2K injection trailer



KASRO 2K injection equipment, packer

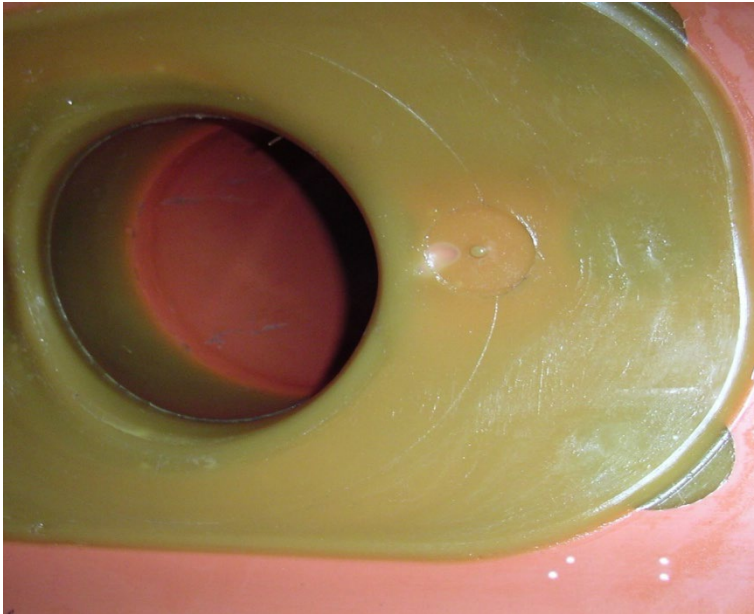


2K model of a lateral connection



Product range Lateral Intake Rehabilitation

2K injection sealing system: example of renovated lateral connection



Product range Lateral Intake Rehabilitation

2K injection sealing system



Defective lateral connection prior to 2K Injection repair



Repaired connection following repair using 2K Injection system

Product range Lateral Intake Rehabilitation

Injection sealing system with epoxy resin

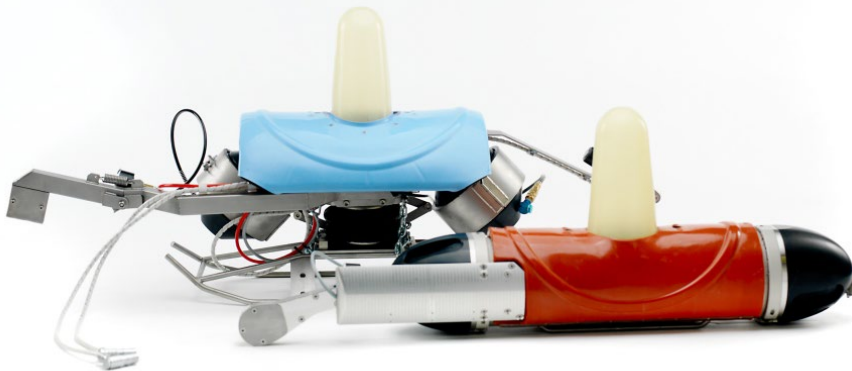
For pipe joints, cracks / fractures and lateral connections

Advantages:

- Material will be prepared prior to injection and will then be injected directly into the damaged area
- Hardens within 40 minutes to one hour through heat

KASRO injection equipment, packer

Rehabilitation result



Product range Lateral Intake Rehabilitation

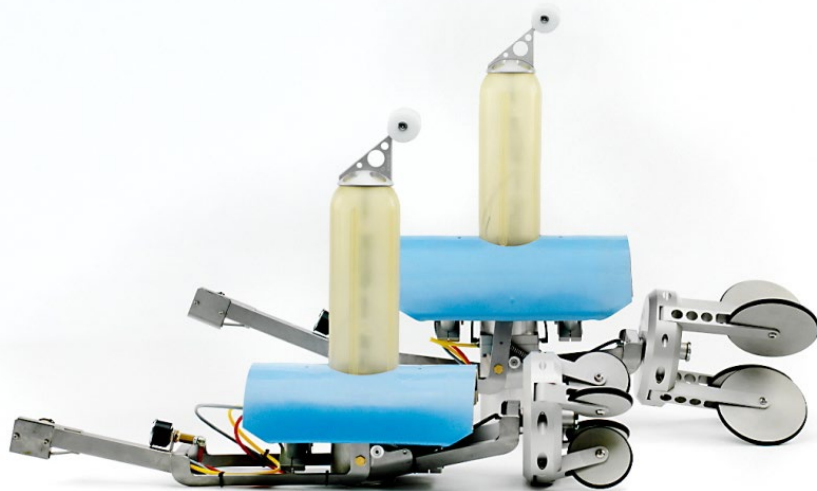
Laminated cap (top hat) placement system

For lateral connections

Advantages:

- Rehabilitates lateral connections with laminated caps (top hats)
- curing process assisted by heating elements and halogen lamps

KASRO laminated cap placement equipment



Epoxy-resin-soaked cap is placed on the lateral balloon



Product range House Connection Rehabilitation

UV light train Ikarus

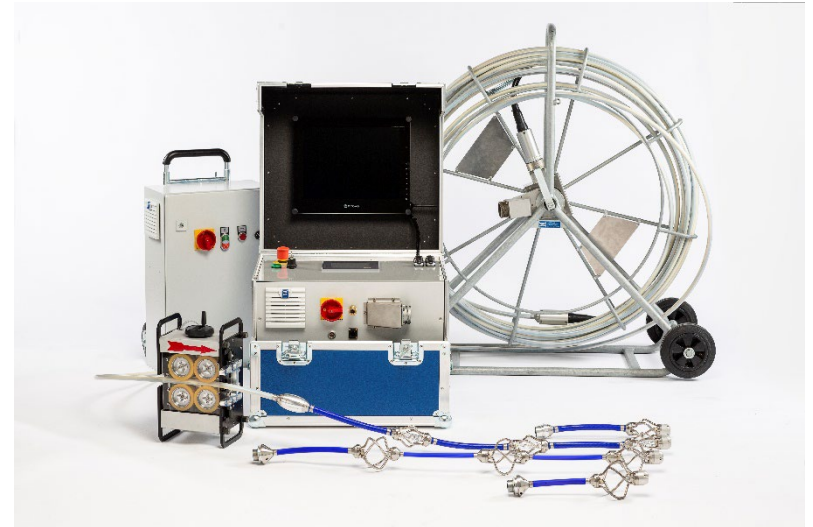
KASRO UV light chain

Curing of fibre glass liners

- DN 100 to DN 150, optional to DN 200
- 3 x 200 W UV lamps or 1 x 200 W lamp

Features

- 40 m push cable on reel with camera
- Bend-capable
- Faster, cleaner, easier jobsite due to the pre-impregnated liner



Product range House Connection Rehabilitation

Advantages to other systems

- UV curing in the field of house connections
 - Faster, more efficient, environmentally friendly
 - less disturbing for local residents
 - safer to work

Product range CCTV inspection system Pro LOOK



Pro LOOK control unit with mobile cable drum and camera
with PROFI Software ISYBAU

Product range CCTV inspection system Pro LOOK



Pro LOOK Technical Details

- DN 150 - 1200
- Cable length: 300 – 500 m
- 6 x 6 all-wheel drive
- Pressure resistant to 1 bar
- Preloaded software: DigiCAN
- Add-on software: WinCAN
- measuring unit for ovality measuring
- Switchable rear view camera
- LED additional lightning
- Full automated cable reel

Product range UV-Technology

- Production of UV curing systems since 2003
- UV light curing of GRFP liners from DN 150 up to DN 2000
- Circular profile, oval profile, box profile
- Possibility of mobile systems and vehicles or containers

Product range UV-Technology

DN 150 to DN 1200



KASRO UV system CCU

- **Mobile** on four wheels
- rehabilitation can be operated within the narrowest jobsite locations
- Complete control unit above electric driven cable drum
- operation, display, datalogging via 21" touchscreen PC
- Inclusive device for tele maintenance via remote control

Product range UV-Technology

DN 150 to DN 1200



KASRO UV system CCU



Technical Data

Dimensions	Depth: 142 cm + 88 cm Width: 70 cm Height: 160 cm
Weight	530 kg
Cable length	200 – 240 m
Control of the light sources	8 x 400 W 8 x 600 W 8 x 1000 W

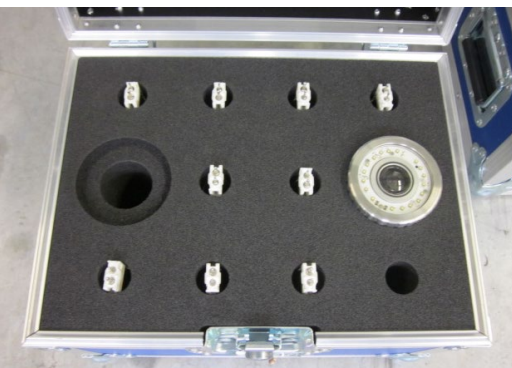
Product range UV-Technology

DN 150 to DN 2000



KASRO UV system in flightcases

- Ready-to-connect system for a safe and easy **worldwide** transportation within custom made flightcases
- For all components, UV light sources, wheel sets, accessories



Product range UV-Technology

DN 150 to DN 2000



KASRO UV system within bespoke flightcases

- Mobile cable drum: up to 200m
- Control of light sources:
 - 8 x 400 W / 600 W
 - 8 x 1000 W
 - 6 x 1000 W
- Oval profile:
 - DN 900 x DN 600
 - DN 750 X DN 500
 - DN 800 x DN 1200

Product range UV-Technology

DN 150 up to DN 2000



KASRO UV system in a Container

- Ready-to-connect-system conforming to **international standard**: transportable via any ship or truck
- Fit out similar to a vehicle or can be bespoke design

Product range UV-Technology

DN 150 to DN 1600

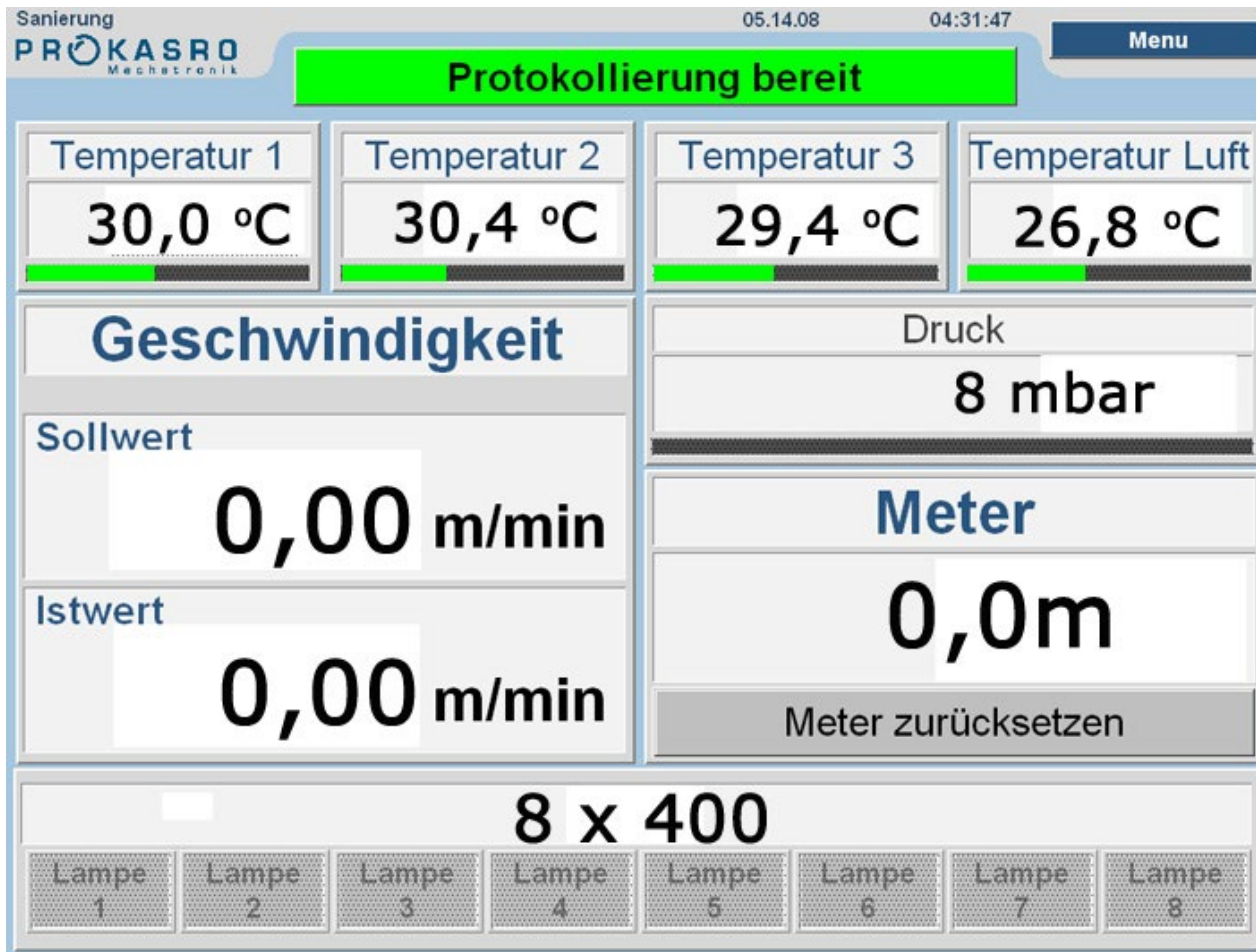
KASRO UV-Technology PROFESSIONAL

Overall rehabilitation 12 x 1000 W from DN 150 to DN 1600



Product range UV-Technology

DN 150 up to DN 2000



UV control system: Operator monitor station screen

Product range UV-Technology

DN 150 to DN 2000



KASRO UV light source

- DN 150 – DN 500
- 8 x 400W / 8 x 600W

KASRO UV light core

DN 550 – DN 1200

- 2 x 4 x 1000 W / 3 x 4 x 1000 W

KASRO UV light core

○ DN 1000 – DN 2000

- 2 x 6 x 1000 W / 3 x 6 x 1000 W

Product range UV-Technology

UV light core 8 x 1000 W



2 x 4 x 1000W UV light cure extended (front) and closed (rear)

Extended UV light core in inflated liner showing position and angle of UV bulbs



Product range UV-Technology

Advantages to other systems

KASRO UV light cores

- Stable construction, as the light core is extended to size electronically
- Symmetric positioning of the UV lamps
- Constant, efficient lightning of the liner with no overlap shadow
- Lower wattage bulb requirement
- Adaptable configuration to accommodate diameter changes
- Curing of liners up to **DN 2000**

Product range UV-Technology

Advantages to other systems

KASRO UV light cores

- Stable construction, as the light core is extended to size electronically
- Symmetric positioning of the UV lamps
- Constant, efficient lightning of the liner with no overlap shadow
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- Adaptable configuration to accommodate diameter changes
- Curing of liners up to **DN 2000**

Product range UV-Technology

Advantages to other systems

KASRO UV system

- Electronic pressure control
- Stainless steel cable connector for a rapid on-site repair
- Digital temperature measurement and video image transmission
- Automatic turn on/off of the lamps
- Rear view camera mounted on the plug connector and UV packer camera as additional observational control during curing of the liner

Product range UV-Technology

Advantages to other systems

Benefits of UV-Technology

- Faster installation than traditional CIPP techniques
- Minimal disruption to infrastructure
- Static stronger finished product: UV liner is 4x stronger than felt liner
- Minimal cross sectional area loss to origin pipe

Product range UV-Technology

Advantages to other systems

Benefits of UV-Technology

- Minimal waste, as no water needed for curing process
- High quality control through detailed data logging during installation
- No impregnation on-site, leading to more security for workers

→ **clean, fast, efficient**

Product range rehabilitation vehicles



For Your Information

Contact details

ProKASRO Mechatronik GmbH

Im Schlehert 6

D-76187 Karlsruhe

Tel: +49 721 95082-0

Fax: +49 721 95082-28

Contact Person

Managing Directors:

Yvan Haberkorn

Uwe Reinhardt



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