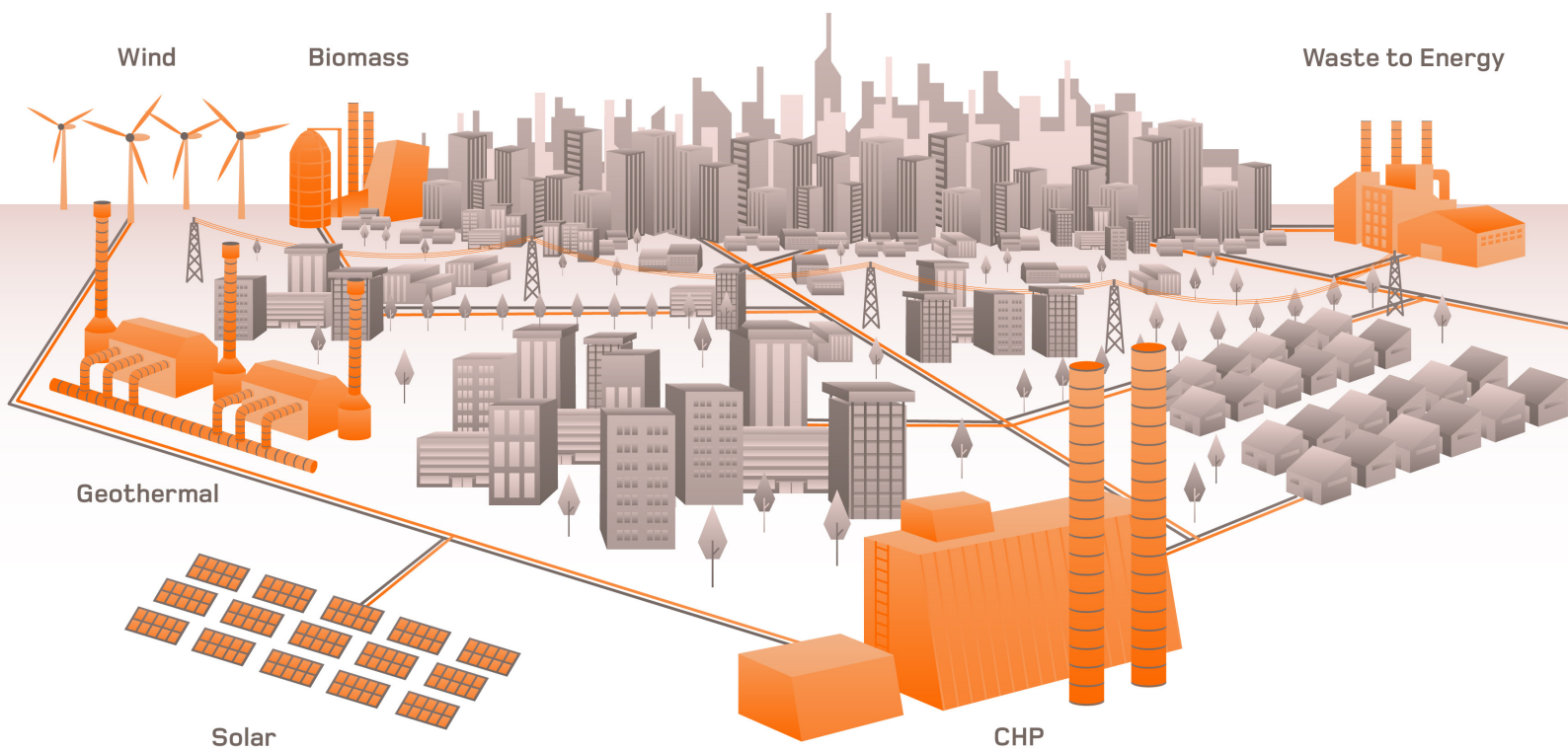


# INLINE INSPECTIONS OF DISTRICT HEATING GRIDS

Asset management for District Heating Grids by Applus+ Inline Pipeline Inspection services



Together  
beyond  
standards

# OVERVIEW

District heating is a sustainable way of using heat for residential and commercial heating, such as space heating and water heating. Renewable sources like geothermal heat, residual heat from the industry or co-generation which is known as combined heat and power generation are suitable for district heating.

The distribution of heat comes from a centralized location through a system of insulated pipes creating a heat network. The pipeline network is subject to environmental and operational factors which can be of the causes pipeline failures. For example; Corrosion on the outside caused by saline soil, physical impact caused by traffic or pipeline movement.

Applus+ is specialized in Difficult To Inspect or non-piggable pipelines for district heating grids, we can give you insight in the location and severity of the degradation. This ensures the reliability and continuity of your assets.

# BENEFITS



Applus+ provides the following comprehensive services:

- Providing Launchers and Receivers
- Cleaning services
- Geometry measurement
- Filtration of contaminated liquid during operations
- XYZ mapping
- Multi diameter pipeline inspection in one single run
- Bi-directional tools
- Multi-disciplined crew
- Tailor-made solutions
- On demand reporting
- Hydrostatic testing
- Displacement and drying services



Temporary Launcher facility



## PROVEN CAPABILITIES AND DEMONSTRATED RESULTS

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The system can differentiate between internal and external corrosion. Metal loss due to mechanical damage or a manufacturing defect can also be measured. Defects caused by deformation, ovalization, dents, buckles, erosion, and lamination can be identified.

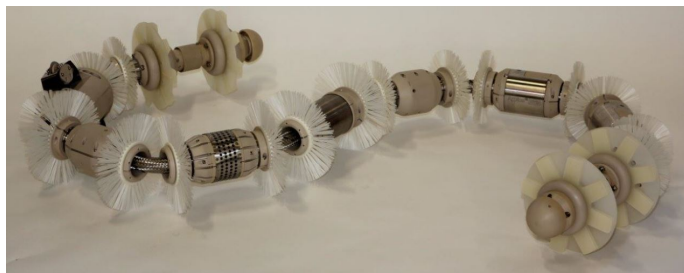
In 2012, the Applus+ Technology Centre started the development of the DTI Trekscan tools. The tools are free-floating and designed to traverse back to back, passing the shortest radius of 1D bends with a speed of 1.4 meters per second. Wall thicknesses ranging from 2.5 mm up to 60.0 mm can be measured, with high data resolution.



*Test center Rotterdam*

## OTHER KEY DIFFERENTIATIONS

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*DTI trekscan picture*

High density measurements are achieved using ultrasound. Quantitative results are provided to determine the integrity of the clients' pipeline. Applus+ engineering department supports field operations with project specific solutions, including upgrades and adjustments to current tools to perform a successful and safe inspection. Applus+ uses in-house developed software programs, with advanced techniques such as workflow automation by means of algorithms and artificial intelligence (Deep Learning Networks). The result is a smooth inspection, with a high-quality report provided for our customers.

## CUSTOMIZED SOLUTIONS

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Applus+ can customize every solution to meet the client requirements and provide an effective asset integrity solution, resulting in operational efficiency, reduced risk, and enhanced safety.

We are recognized as an industry specialist in non-destructive testing, inspection, and certification since 1937. Providing both standard and tailor-made solutions, we are committed to ensuring the quality and efficiency of the client's assets.



*Multiple services Energy*

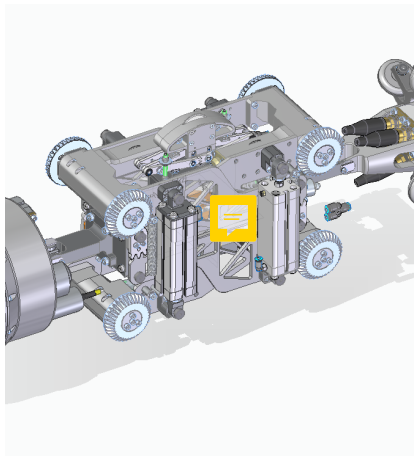
## Related Services



Pipeline Integrity Assessment



New Construction weld inspection



Robot Crawler Inspection



Hidrotesting Cleaning Services

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