



BIOGEST - PowerRing

Efficiency and versatility



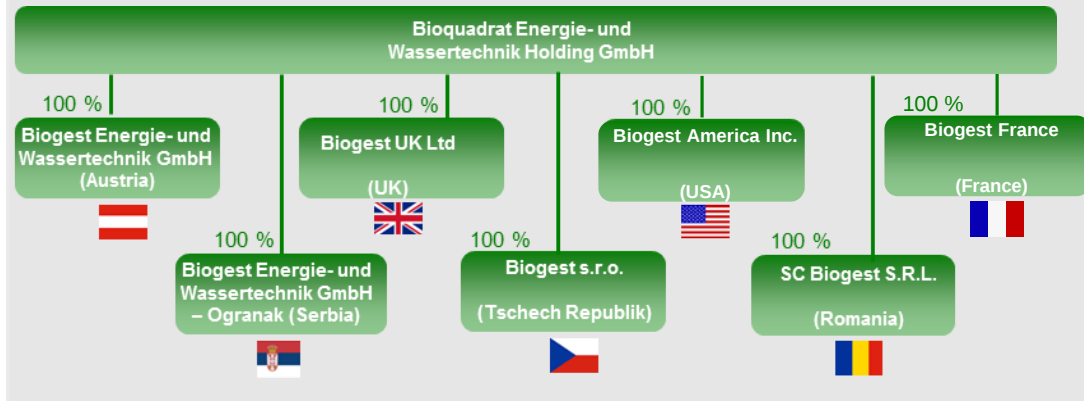


Biogest at a Glance

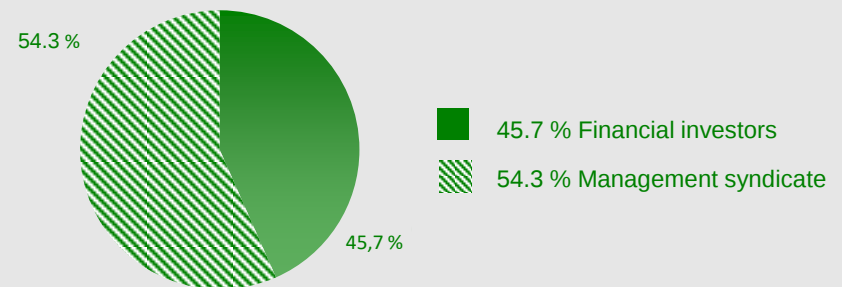
Company Profile

- **31 years of experience** in environmental engineering
- **Business segments:**
 - **Biogas Engineering:**
Plan and build Biogas plants
 - **Own Plant Operations:**
Own and operate Biogas plants
 - **Agriculture:**
Sustainable products for food- and healthcare industry
- **Sites in AT** (Klosterneuburg/ Vienna, Sankt Valentin/ Linz), **US** (Denver), **UK** (Dumfries), **FR** (Change), **CZ** (Breclav), **IT** (Sgonico), **RO** (Timisoara), **RS** (Beograd)

Company Structure



Shareholder Structure





Business Segment "Biogas Engineering"

Product Range



Project Development

Planning

Permits

Financing

Turnkey construction

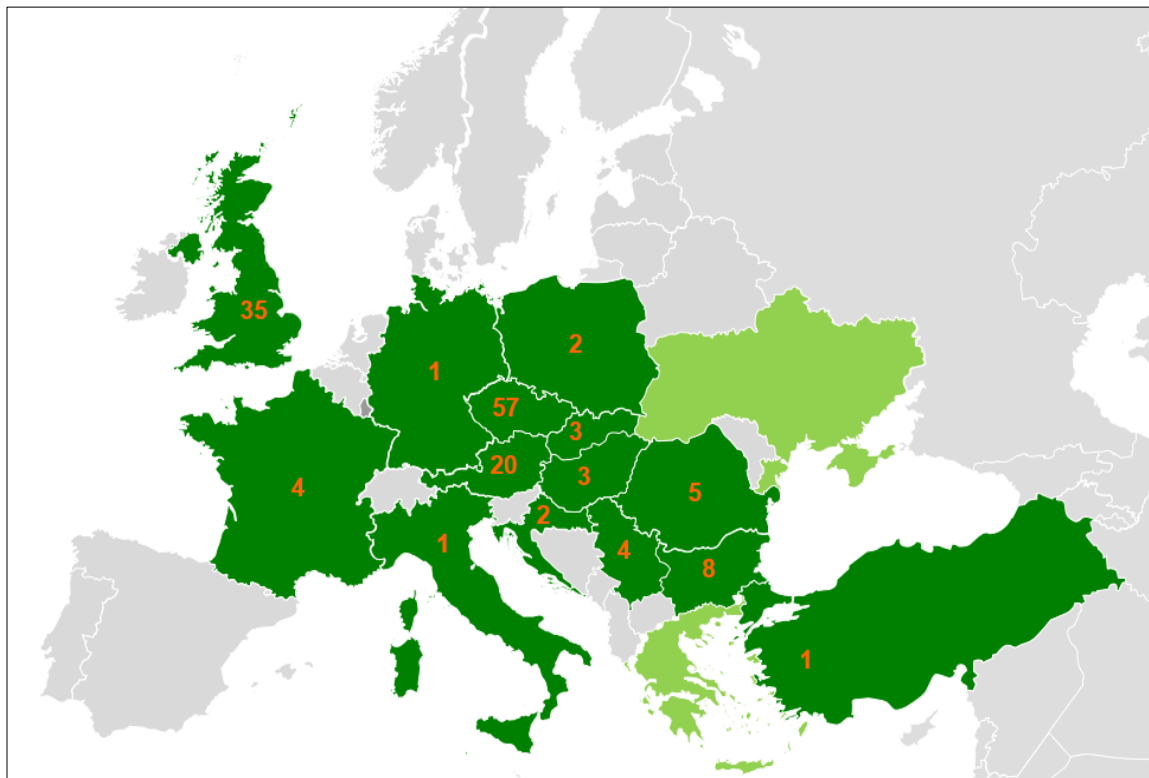
Commissioning

Operation and Maintenance



Markets

Construction, Planning and Repowering References

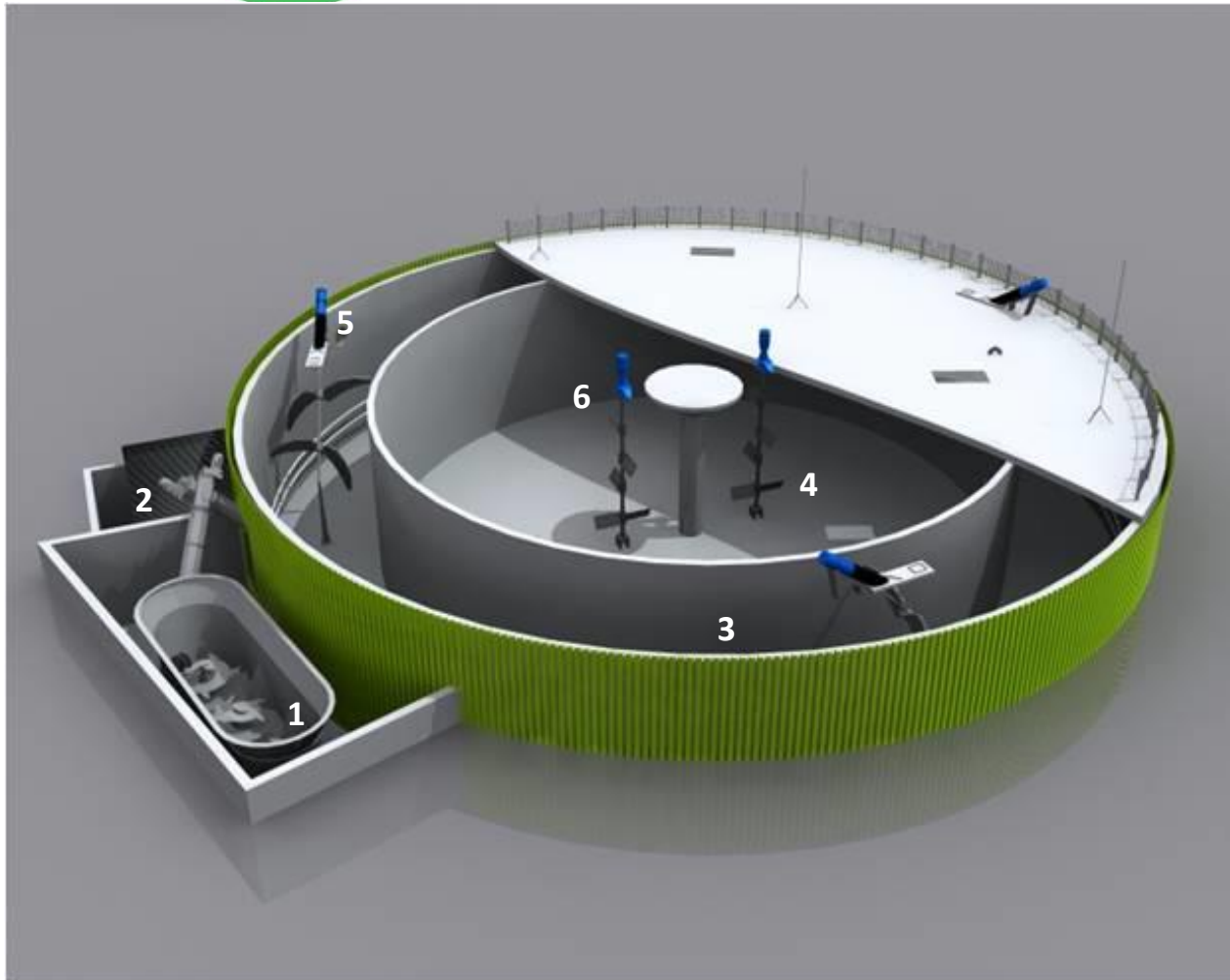


- Core markets
- Markets in preparation

Market preparation outside of Europe:

- United States of America
- Asia (Thailand, Korea, Malaysia, India, Singapore, Indonesia, Philippines)

PowerRing Technology



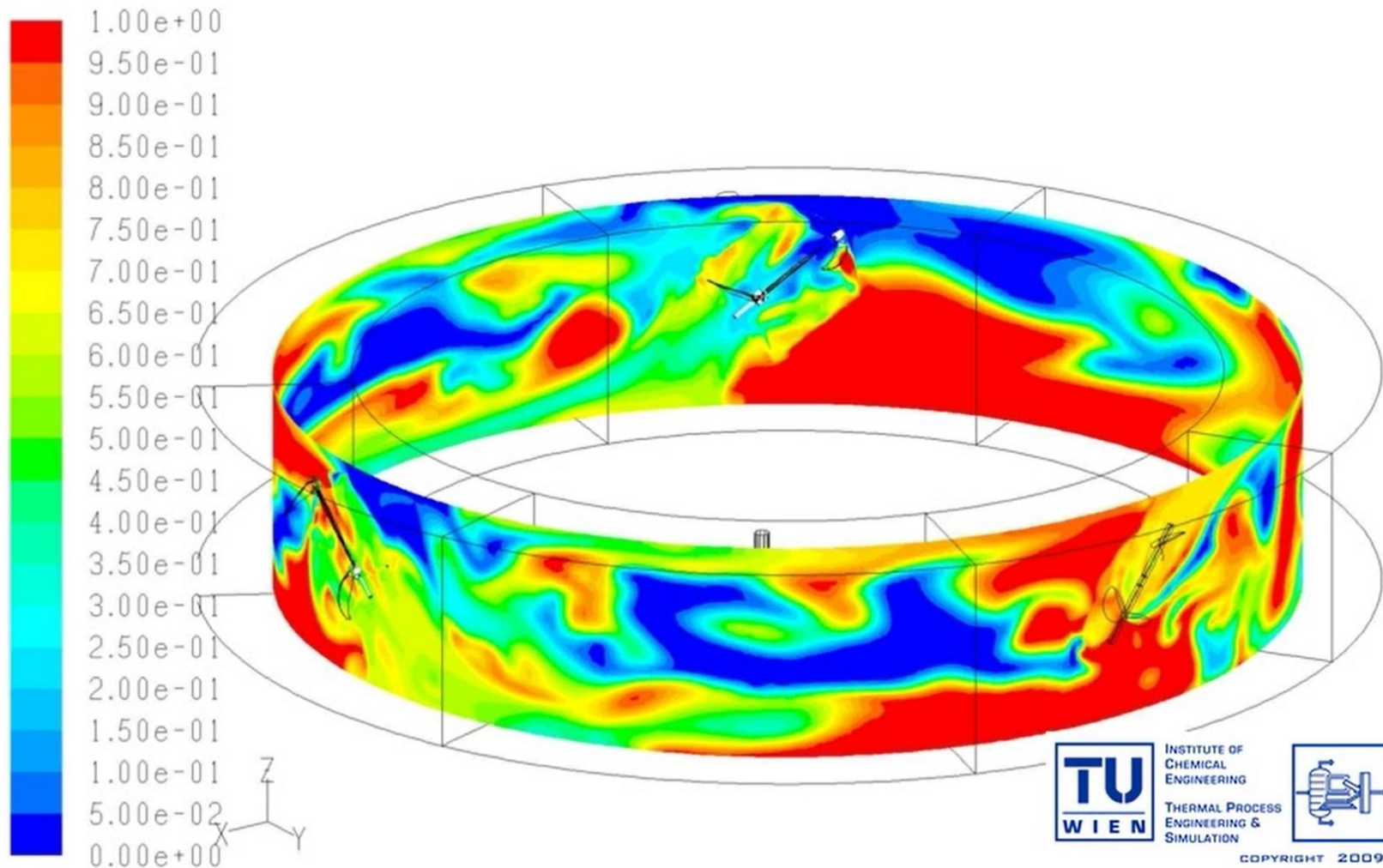
Main elements PowerRing:

1. Solid feeding system
2. Pumping station
3. Primary digester
4. Secondary digester
5. Stirrers primary
6. Stirrers secondary



PowerRing

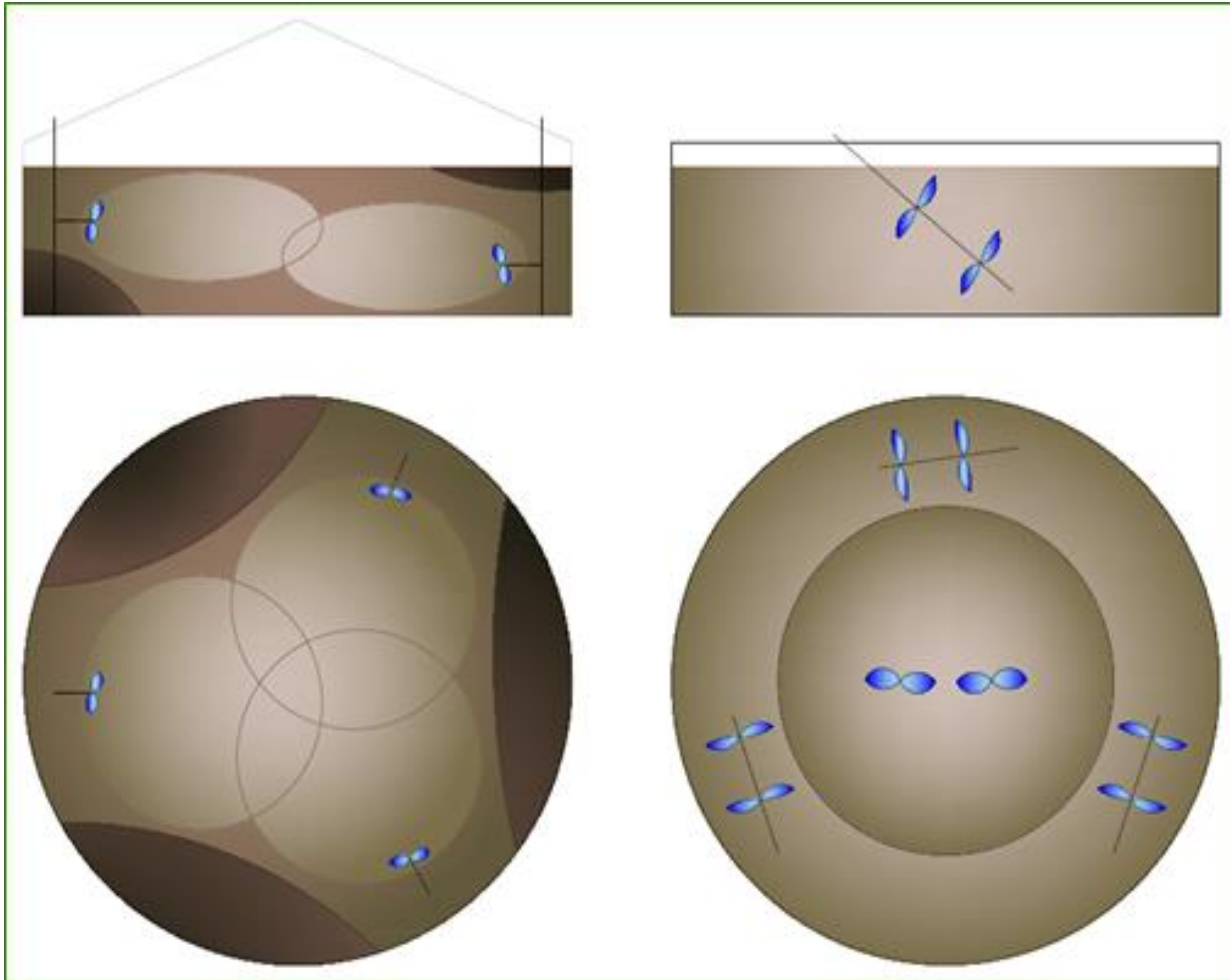
Stirring performance





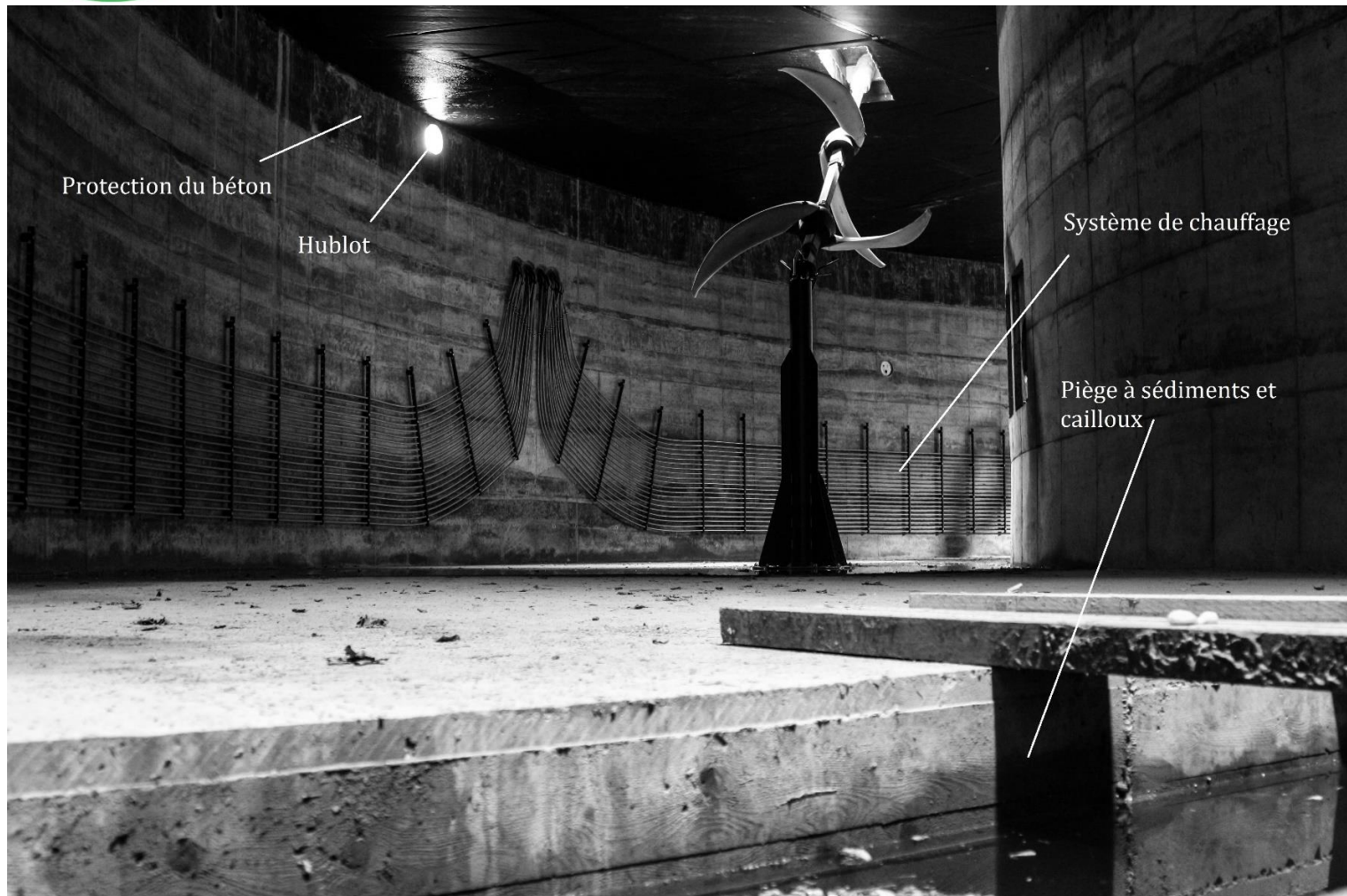
Comparison

Standard fermenter vs PowerRing

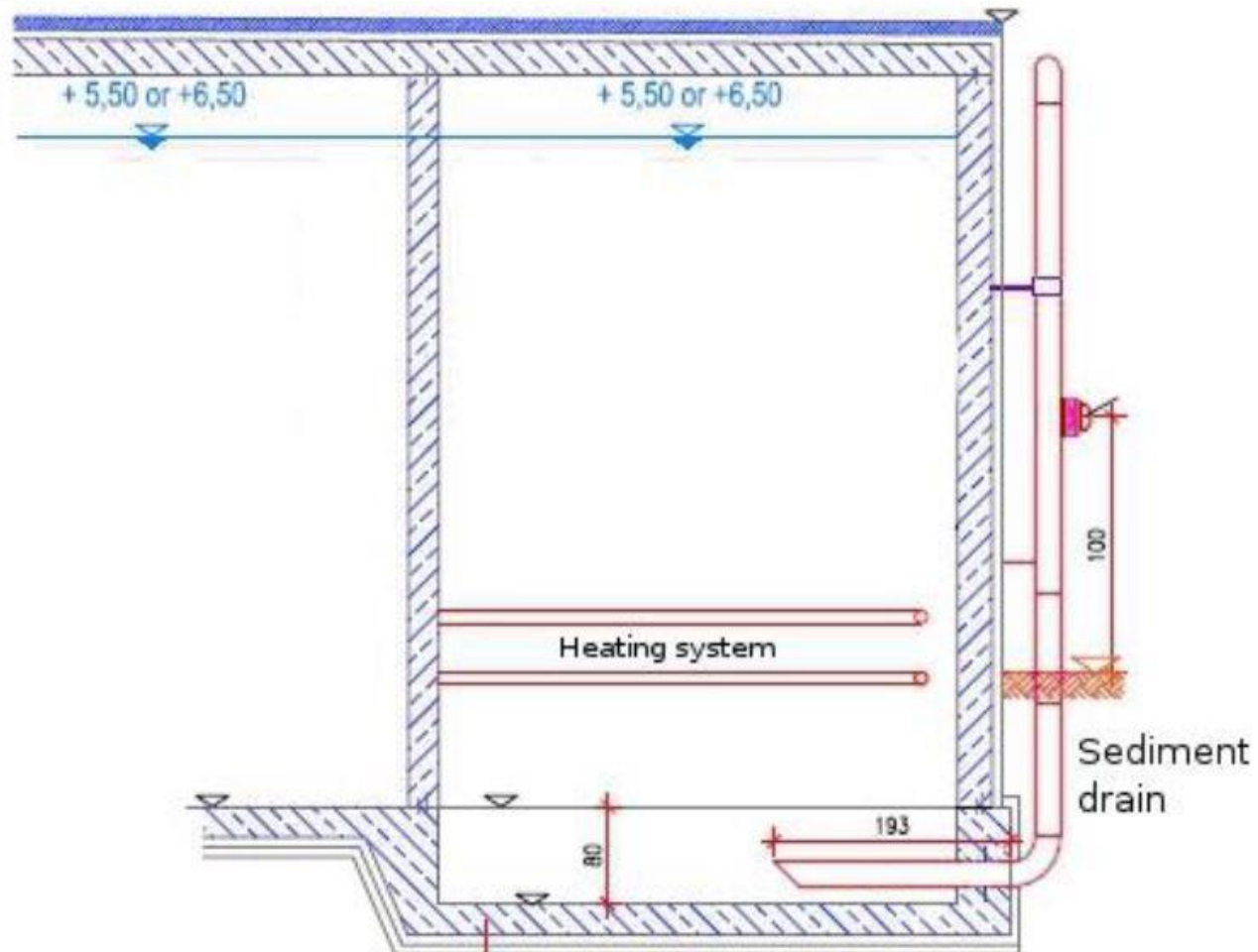




PowerRing Sediment drain

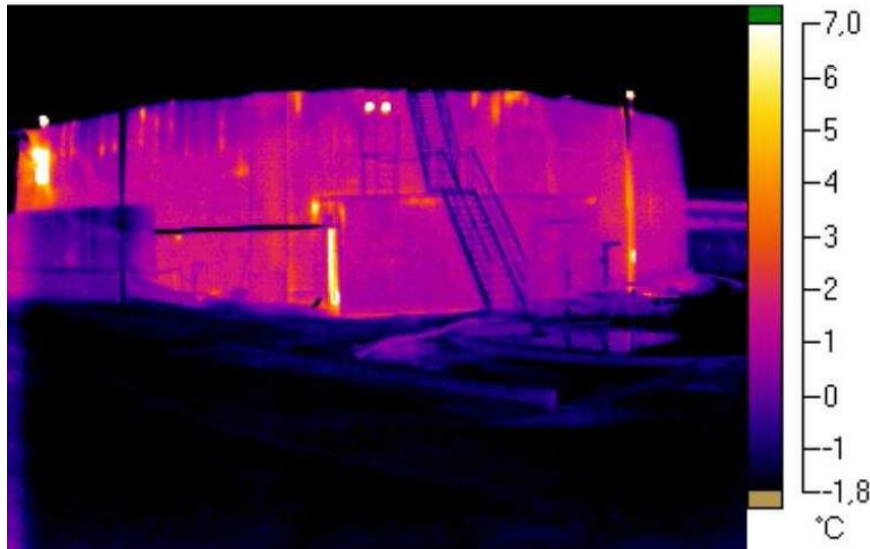


PowerRing Sediment drain (II)

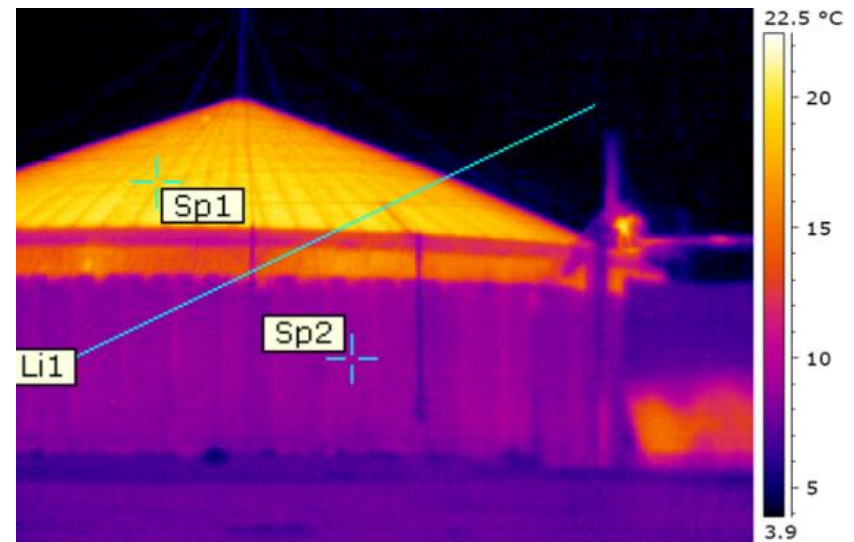




Comparison of Power Ring & Standard fermenters



Power Ring (PR)



Standard fermenter



PowerRing – Technology (250 kW – 2 MW)

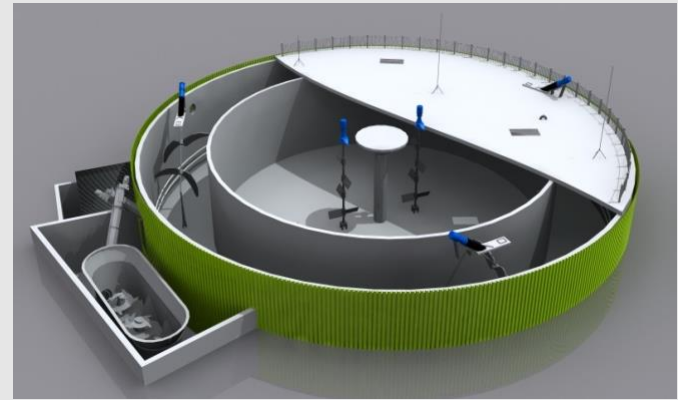
Technology Highlights

- High flexibility in substrate utilization
- Low process energy consumption due to the specific digester geometry (up to -60%)
- High dry matter contents inside the digester (up to 15% DM)
- High thermal efficiency
- High reliability and stability of plant operation
- High full load hours averaging 95%

Plant Performance in %



Biogest PowerRing





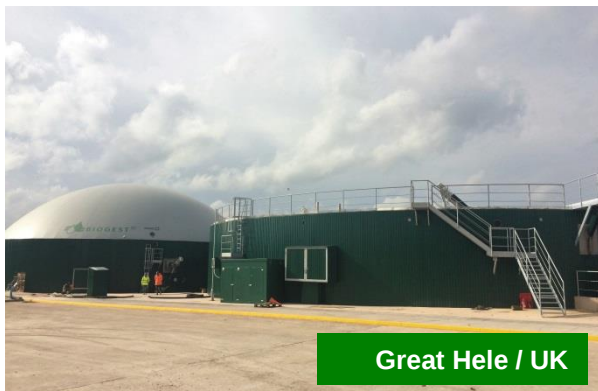
PowerRing Italian Pipeline

No.	Name	Region	Capacity	Substrates
1	Collarmele	Abruzzo	550 Sm ³ CH ₄ /h	carrots, potatoes, fennel, vegetables residues, cow manure, wheat straw
2	Matera	Basilicata	430 Sm ³ CH ₄ /h	cow slurry, cow manure, olive pomace
3	Laterza	Puglia	350 Sm ³ CH ₄ /h	cow slurry, cow manure, olive pomace 2 ph, pate
4	Bernalda	Basilicata	350 Sm ³ CH ₄ /h	olive pomace 2 ph, pate, chicken manure, vegetable residues
5	Roma	Lazio	400 Sm ³ CH ₄ /h	chicken manure, cow manure, carrots, potatoes
6	Manduria	Puglia	600 Sm ³ CH ₄ /h	olive pomace, chicken manure, whey, cow manure
7	Trani	Puglia	400 Sm ³ CH ₄ /h	olive pomace, chicken manure
8	Benevento	Campania	400 Sm ³ CH ₄ /h	olive pomace, cow manure, chicken manure
9	Benevento 2	Campania	400 Sm ³ CH ₄ /h	olive pomace, cow manure, chicken manure





Biomethane Plant Examples





Thank you for your attention

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