



**BILFINGER**

**Bilfinger SE | Capital Markets Day 2018**

# **E&T Continental Europe**

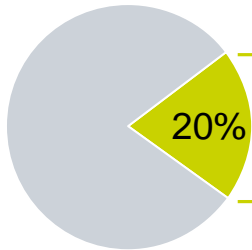
**Dr. Michael Löffelmann, Executive President**

Frankfurt, June 13, 2018

# E&T Continental Europe – Profile

Technology focused Division with specialized engineers and process know how

Group Revenues 2017



<b>Segment split</b>				
100%				
E&T				
<b>Industry split</b>				
26%	24%	27%	20%	3%
Chem. & Petrochem	Energy & Utilities	Oil & Gas	Pharma & Biopharma	Others
<b>Contract type</b>			Reimbursable	
70%			20%	10%
Lump-sum			Unit rates	
<b>Share of engineers in workforce</b>				50%

**Employees:** 5,181

## Management Team



EP  
**Michael Löffelmann**



FD  
**Jens Borgschulte**

**Headquarters:** Oberhausen

Previous Bilfinger Power Business fully integrated

# Market

## Strategic focus offers opportunities in a changing Power market

### Relevant trends in Power Industries<sup>1)</sup>

#### Overall

- Energy mix is shifting, driven by technological improvements and environmental concerns
- Nuclear, together with hydro and renewables expected to provide half of the increase in the global energy until 2035

#### Overall

- Nuclear providing business opportunities through decommissioning, modernization or new built – depending on countries
- UK and France considered as countries with high nuclear activities

### Business opportunities for Bilfinger

#### Nuclear

- Bilfinger has a well established portfolio throughout E&T for design, upgrade and installation in brownfield and greenfield nuclear

#### Emission Control (e.g. SO<sub>x</sub>-Reduction)

- Bilfinger has developed innovative solutions for the power industry that are successfully adapted to other industries (e.g. Scrubbers for ships)

#### R&D capabilities

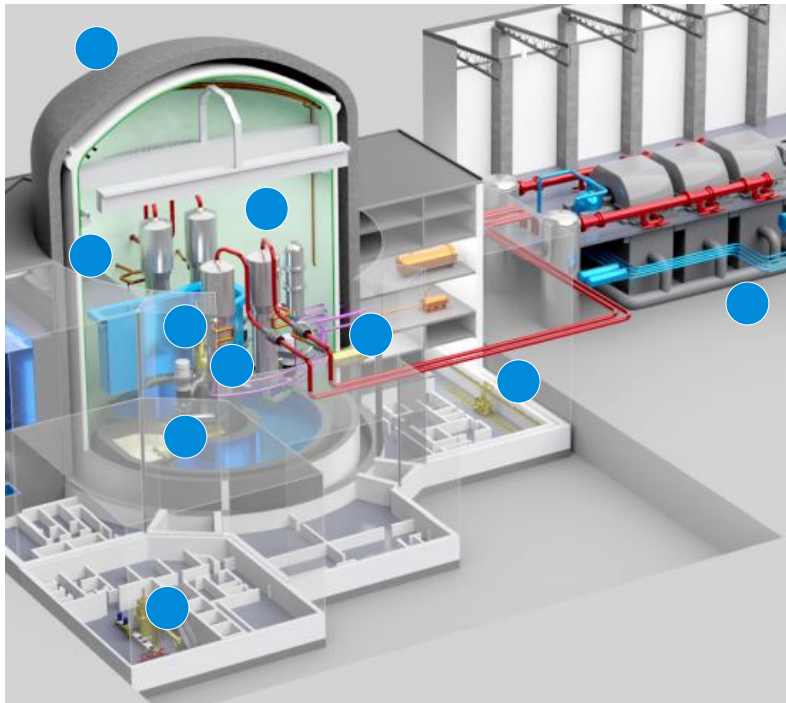
- R&D capabilities are applied on innovative technologies (e.g. into new applications)

1) International Energy Association, BP Energy Outlook, World Nuclear Association

# E&T Nuclear

Strong technological know how for all areas of a nuclear reactor

## Bilfinger's capabilities across the lifecycle



### Project Consultancy

- Feasibility studies and concept design for containment and fuel handling
- Project engineering, management

### Equipment Manufacturing

- Pressure vessels, piping assembly works
- Air lock manufacturing, handling systems

### Design Engineering

- Containment with design of liners, windows, feedthroughs, waste handling systems and piping systems

### Modification/Optimization

- Management of complete projects for expansion, modification and optimization

### Plant construction

- Installation work including project management and supervision
- Start up and commissioning

### Decommissioning

- Decommissioning, dismantling and handling of primary circuit equipment

# E&T Nuclear

## Capabilities and opportunities in greenfield and brownfield

### Greenfield (Example UK)



- 11 new nuclear reactors in planning on 5 locations
- Broad Bilfinger references from similar projects (e.g. Olkiluoto, Eemshaven, Neurath)

### Brownfield (Example France)

- Modernization of 58 nuclear reactor blocks for EDF in France
- Engineering, construction and installation of pipelines, valves and support structures
- Consortium of three Bilfinger entities

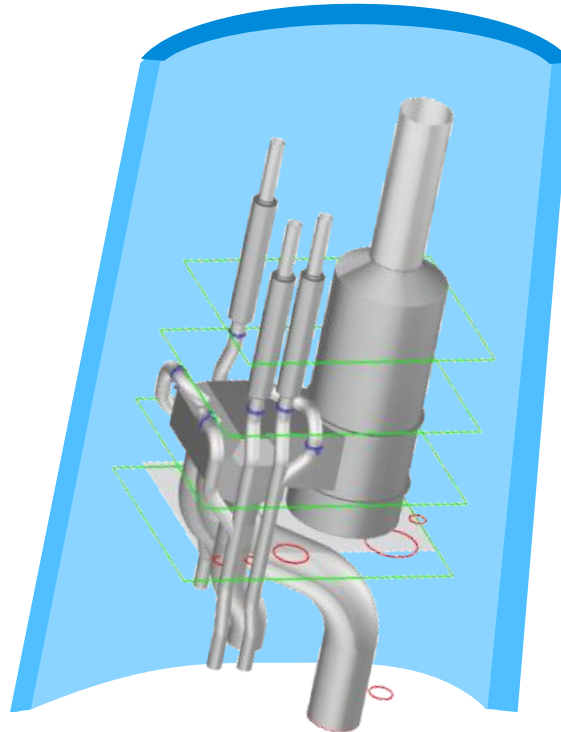


# SOx-Reduction

Scrubber technology for vessels offers great potential for profitable growth

## Market<sup>1)</sup>

- 2020 regulatory change for sulfur in fuel oil from 3.5% to 0.5%
- Two options:
  - (1) Pay \$200-300/t more
  - (2) Scrubber technology
- Scrubbers at \$1-2 m each  
→ ROI 175%
- Market demand:  
"Thousands of ships worldwide"
- Market supply:  
20 companies @ ~50 units each per annum



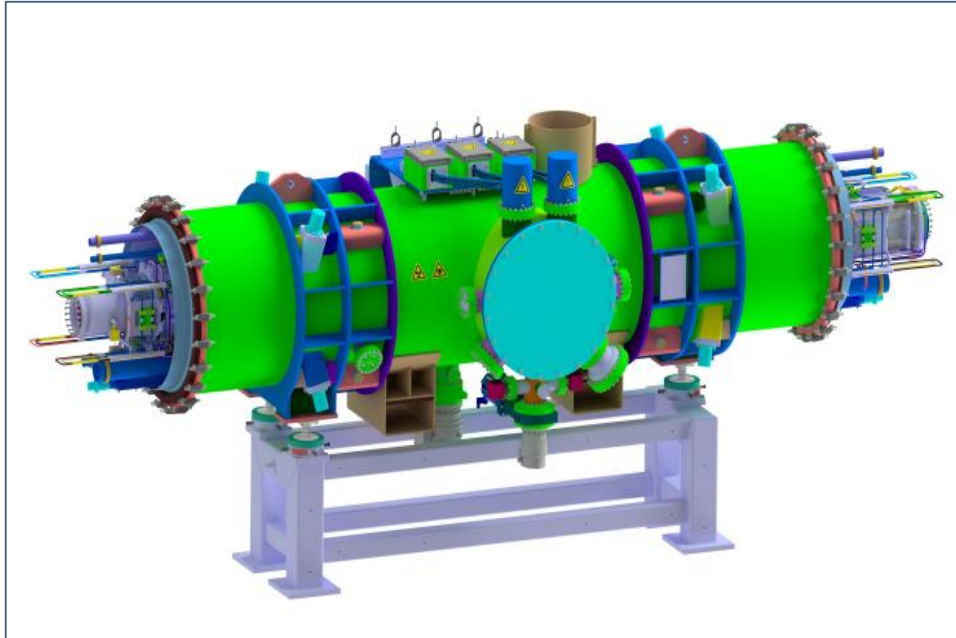
## USPs

- Bilfinger's engineering is able to fit scrubber into any existing funnel
- Two phase design
- Low pressure differentials  
→ high efficiency
- Bilfinger offers whole value chain
- Technology reduces SOx to required levels (up to 97%)
- **Vast experience in scrubber operation in heavy duty environment**

1) Deutsche Bank Market Research: Potential game changer for Shipping, November 22, 2017

# R&D capabilities

## Superconducting magnetic modules



### Superconducting magnetic modules

- Major contract from GSI Helmholtzzentrum für Schwerionenforschung GmbH
- Construction and delivery of 83 superconducting magnetic modules for FAIR project (Facility for Antiproton and Ion Research)
- Contract volume >20 m EUR
- Bilfinger supplying technology to FAIR for 10 years
- Bilfinger is also working with Karlsruhe Institute of Technology, CERN and European Organization for Nuclear Research