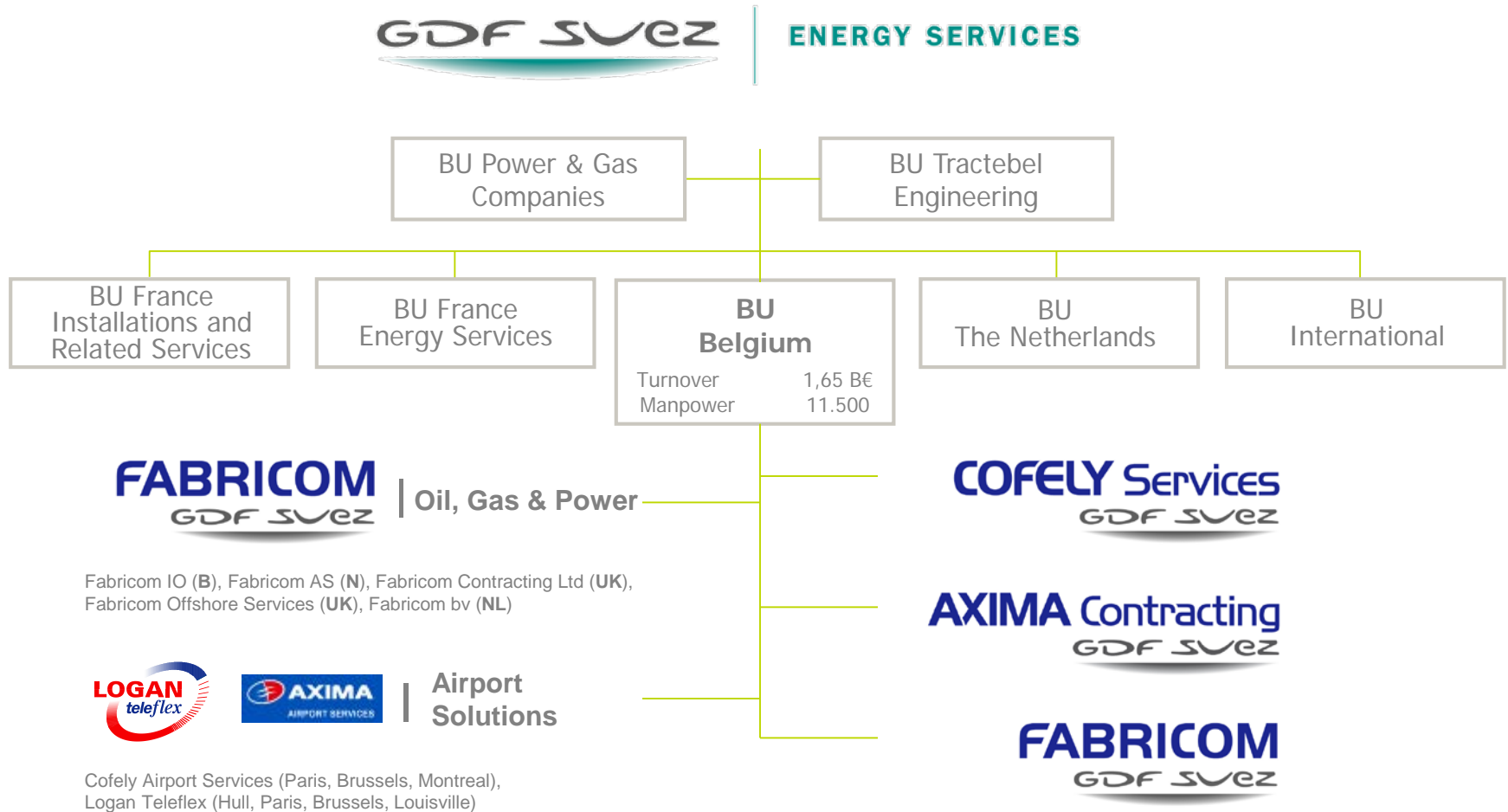




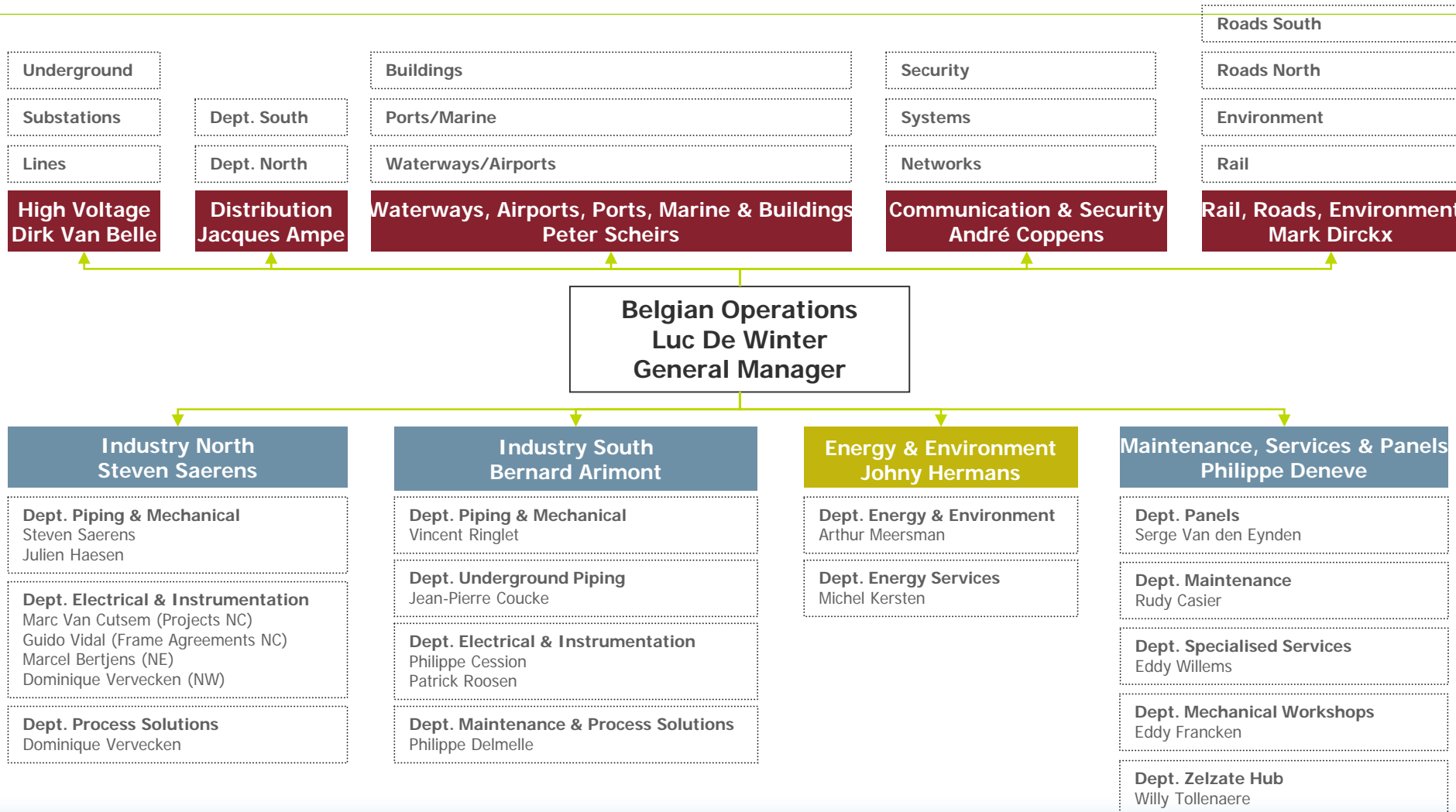
Maintenance workshop 25.11.2010

Herwig Chantrain
Division Safety & Quality Manager

GDF SUEZ Energy Services



Organisation chart Belgian Operations





Maintenance on Site

Maintenance on Site

Key elements

24/7 service

Multidisciplinary teams

3 locations

Back-up support from workshops

- Total maintenance of process and utility plants
- Maintenance of rotating equipment
 - Turbines, compressors, pumps, onshore wind farms, blowers, gearboxes,...
 - Partnership with equipment manufacturers
 - Condition monitoring (vibration measurement, oil analysis, infrared images,...)
 - Re-engineering of pumps
- Lubrication contracts
- Maintenance in nuclear power plants
- Maintenance in incinerators



Safe Maintenance

Risks during maintenance

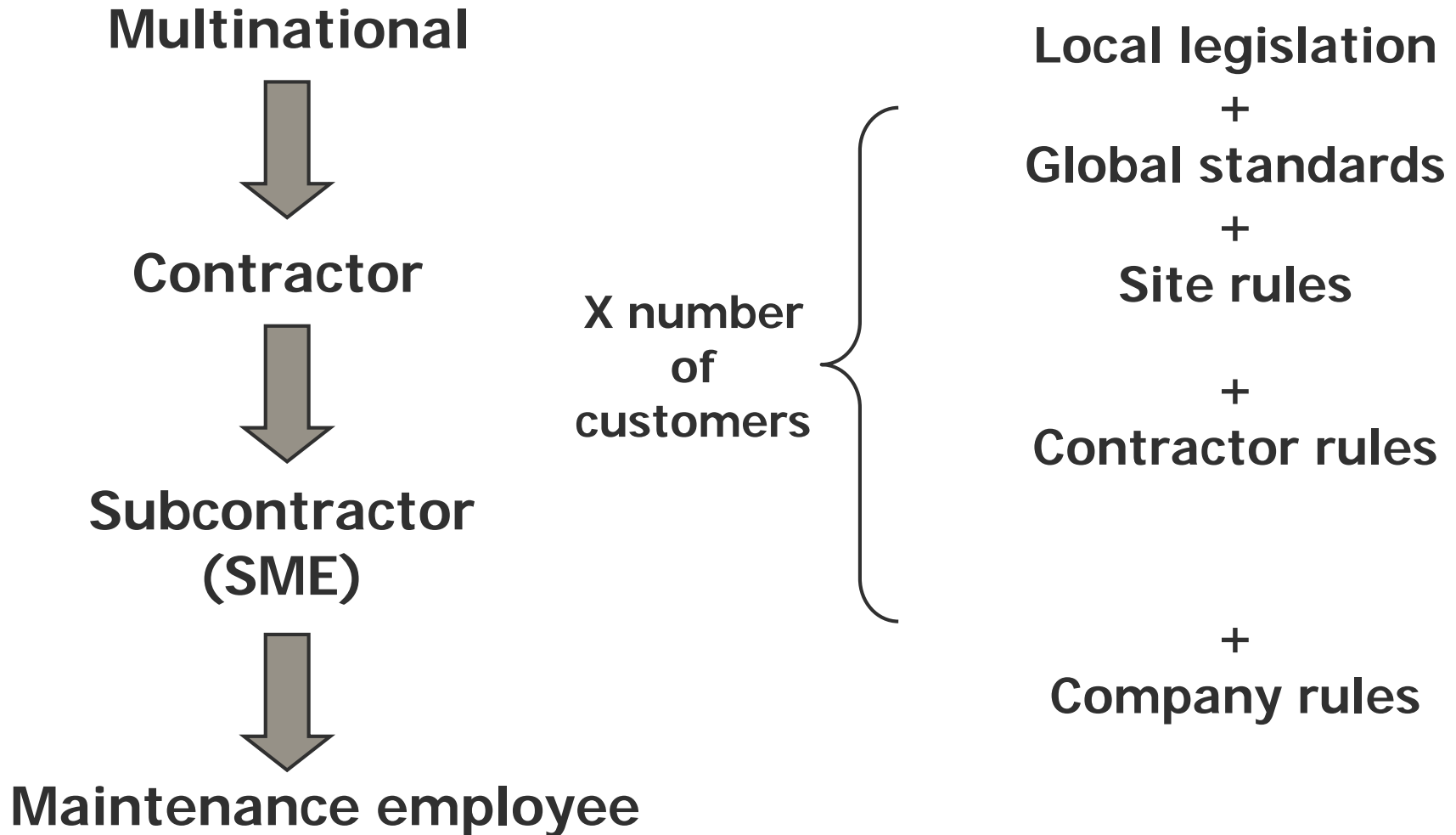
- Energy on the systems (electricity, pressure, chemical products)
- Lack of knowledge of the installation (outsourcing)
- Pressure of time (trouble-shooting, intervention)
- Communication (linguistic problems, difference in safety culture and perception)
- Choice of partners based on costs
- High demands – low costs

Target : zero fatal incidents

High costs
Loss of image
Criminal
prosecution
Human harm



Rules



Pressure on the maintenance employee

- Qualified in his/her specialty
- Extra qualifications
- Knowledge of the safety rules
- Administration
- Linguistic skill
- Salary





Large structures vs SME

“You don't have to start out understanding each other. You have to end up understanding each other.” (Buddingh)

Different safety cultures

Large structure

- Unrealistic safety demands
- Don't follow their own safety rules
- Deviate from safety rules when urgent
- Tolerance policy



SME

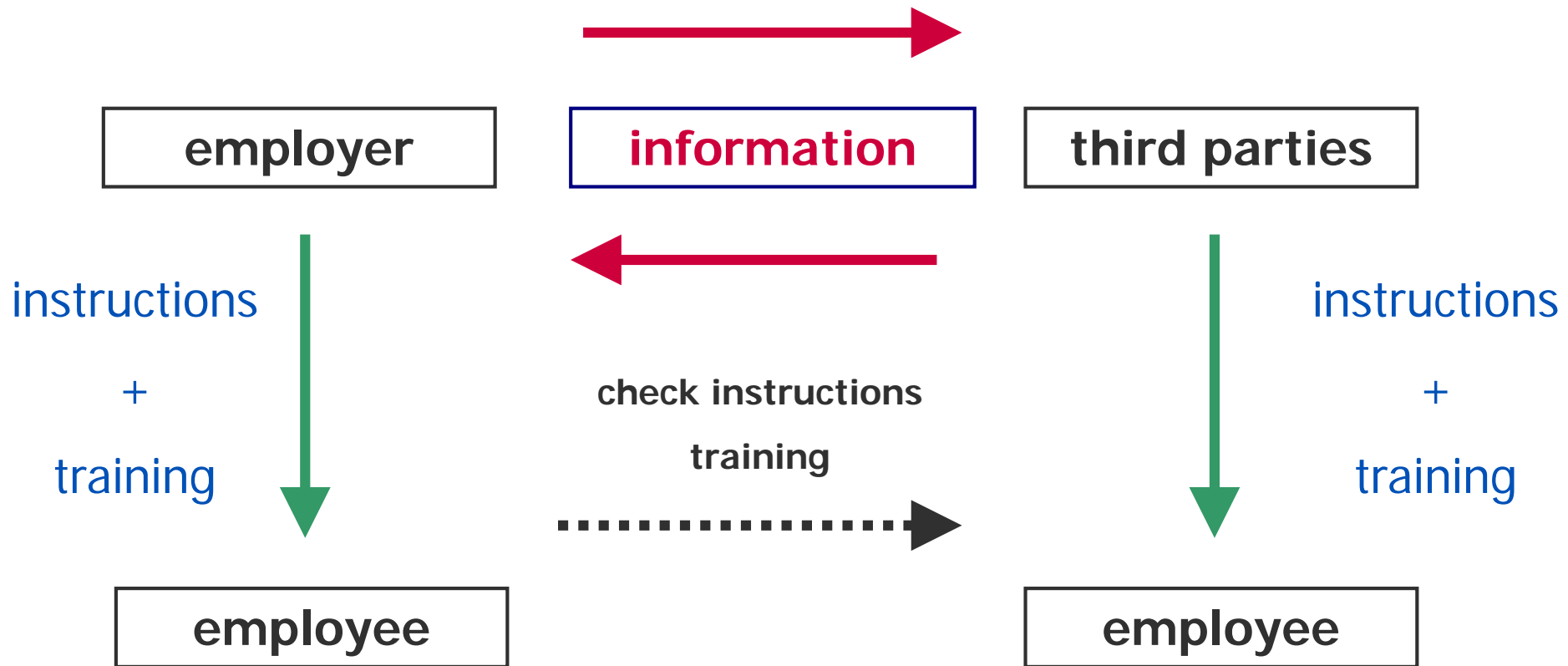
- Limited safety policy
- Unqualified personnel
- Few means
- Many demands for the person carrying out the work
- Linguistic problems
- Fraud



Collaboration

Doing everything oneself, is adding up. Collaborating is multiplying.

Working with a third party – European legislation



Contractor management

- Good communication between the different partners
- Screening partners – database
- Not only impose rules but also coaching

Contractor manager

- **Trainings (in own workshop)**
- **Contractor days**
- **Joint purchase**
- **Expertise Safety Manager**
- **Audit**
- **Risk analysis**
- **Site visit**



white crow

Contractor management

- Need each other in order to achieve objectives
- Consider subcontractors as own employees
- Incorporate all safety data in own statistics
- Enhance standard with all partners (at times educate customer, mostly customer high demands)
- Uniform rules different companies
- VCA (safety checklist for contractors) <http://www.besacc-vca.be/nl/vca>
- Exchange data

**“There are risks and costs to a program of action,
but they are far less than the long-range risks and costs
of comfortable inaction.”**

John Fitzgerald Kennedy