

Presentation for the 30th Annual European AIChE Seminar By Sytse Kamstra, Home Office Construction HSE Engineer, Technip Benelux B.V.

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Sytse Kamstra – Home Office Construction HSE Engineer

- Introduction
- ► Role



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1. Introduction

- Technip
- Technip Benelux B.V.
- **Construction Department**



Technip Today

With engineering, technologies and project management, on land and at sea, we safely and successfully deliver the best solutions for our clients in the energy business.

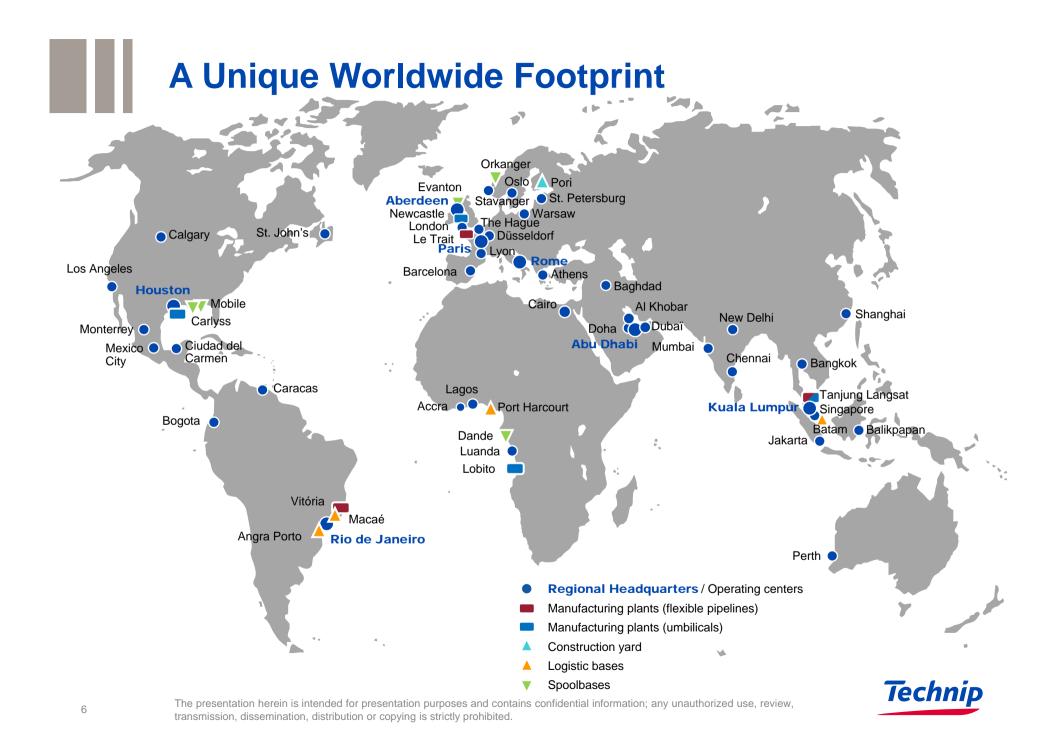
Worldwide presence with 30,000 people in 48 countries.

Industrial assets on all continents, a fleet of 34 vessels (of which 4 under construction) 2011 revenue: €6.8 billion.



Energy is at the core of Technip





Business Segments



- Design, manufacture and supply of deepwater flexible and rigid pipelines, umbilicals, and riser systems
- Subsea construction, pipeline installation services and Heavy lift
- Six state-of-the-art flexible pipe and / or umbilical manufacturing plants
- Five spool bases for reeled pipeline assembly as well as four logistics bases
- A constantly evolving fleet strategically deployed in the world's major offshore markets



- Engineering and fabrication of fixed platforms for shallow waters (TPG 500, Unideck[®])
- Engineering and fabrication of floating platforms for deep waters (Spar, semi-submersible platforms, FPSO)
- Leadership in float over technology
- Floating Liquefied Natural Gas (FLNG)
- Construction yard



- Gas treatment and liquefaction (LNG), Gas-to-Liquids (GTL)
- Oil refining (refining, hydrogen and Sulphur units)
- Onshore pipelines
- Petrochemicals (ethylene, aromatics, olefins, polymers, fertilizers)
- Bio fuel and renewable energies (including offshore wind)
- Non-oil activities (principally in life sciences, metals & mining, construction)





Pulse

- Health, Safety and Environment (HSE) Policy
 - Our goal: create and sustain an incident-free environment delivering excellent HSE performance at every level

An Absolute Commitment to HSE

- 3 main focus areas:
 - The maintenance of effective HSE management systems
 - Establishing meaningful leading and lagging indicators to measure and manage performance
 - Creating a climate that is intolerant of inappropriate HSE behaviours and unsafe situations
- Safety as a value and a culture
 - Clear commitment to safety by management
 - Workforce participation and ownership of safety problems and solutions
 - Trust between shop floor and management
 - Good communications
 - A competent workforce
 - Pulse : a program now adopted by major clients (Wheatstone project in Australia for Chevron, FLNG for Shell)

"The health and safety of our people is a core value and an absolute commitment" Thierry Pilenko, Chairman and CEO of Technip



Approach

Approach after 2009, focus on

- PULSE site training (Leadership Training focussing on Supervisor's role)
- Site visits/ auditing/ training
- Keep things practical/ simple, no extensive systems/ programs
- Awareness of cultural influences
- ► The importance of a local HSE Supervisor



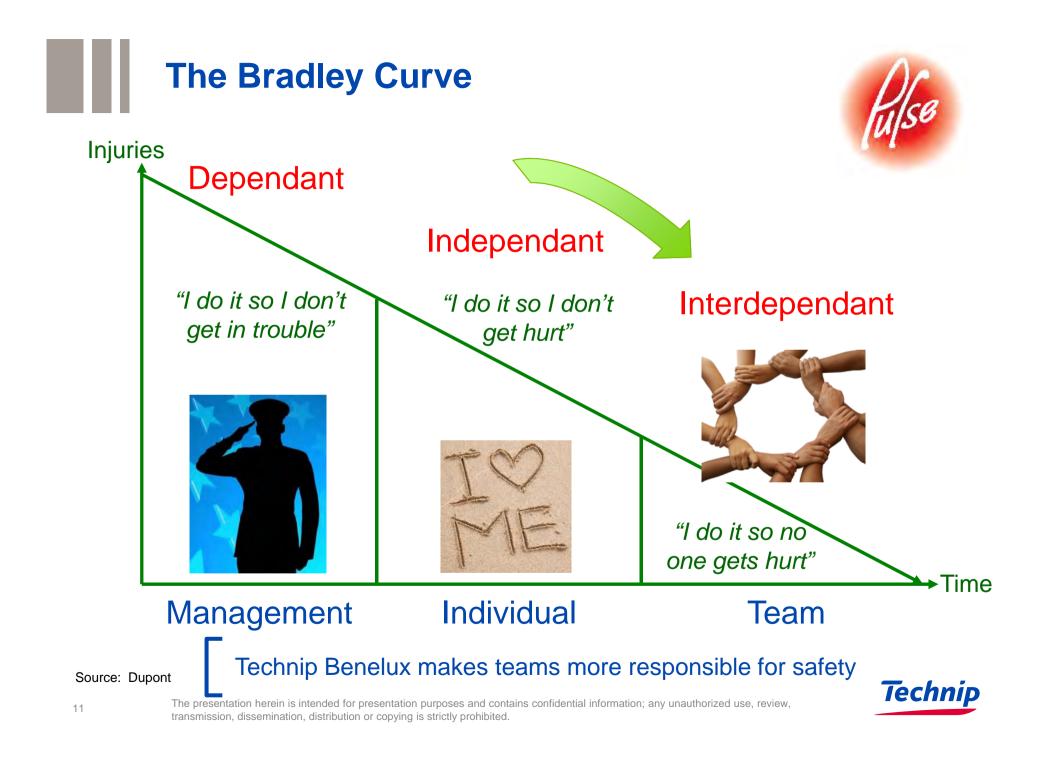














Trend of the number of Observations of Technip Benelux Construction/ Start-up totals in the years 2009-2011

Year	2009	2010	2011
Observations per	380	2210	9760
1,000,000 manhours			

More focus on safety results in more observations



2. Start of a project

Steps after contract awarding, depending on role (contract) TPB

- Mobilizing/ Man power organizing the site team, including (hired) HSE Supervisor (local/expat)
- Implementation of TPB Safe System of Work
- Review of (sub)contractor's documents
- Training program (induction, PULSE, specific instruction/ training)
- **Equipment on site**



3. Safe System of Work

HSE system as described in TPB's 3 HSE 'key documents'

- Construction HSE Plan
- Risk Inventory & Evaluation
- Rules & Requirements



Safe System of Work

Safe System of Work

- ► TPB's 3 HSE key documents
- Permit to Work system
- Instruction/ Training
- Inspections/ Audits
- Daily Observations Logbook

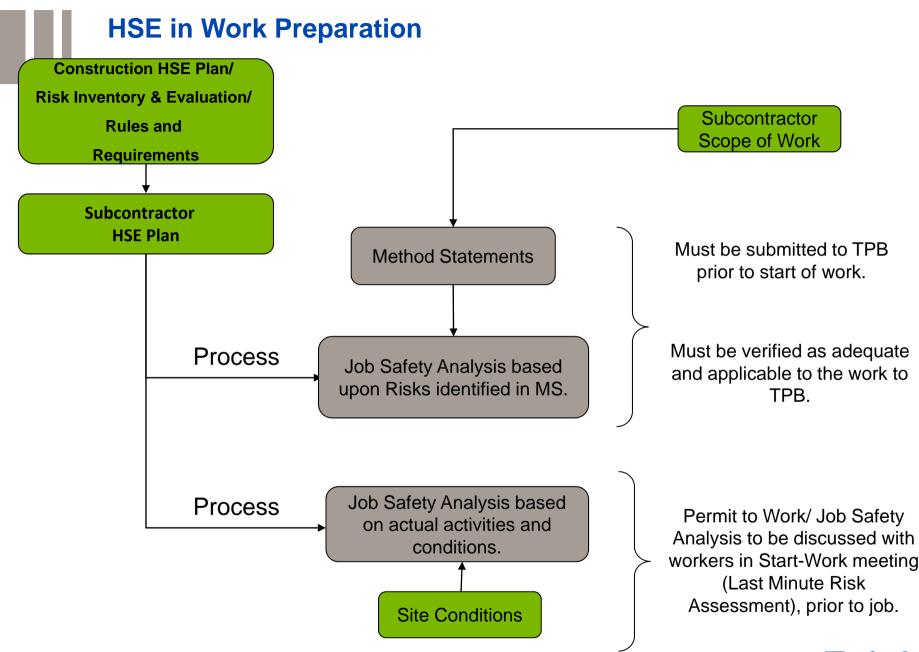


4. Work preparation

Levels

- TPB Risk Inventory & Evaluation
- (Sub)contractor's HSE Plan + Method Statement/ Risk Assessment, reviewed/ approved by TPB
- Start-work meeting
- Last Minute Risk Assessment







5. Role Discipline Supervisors

Most important roles & responsibilities regarding Safety

- **Enforce the Construction HSE Plan at site.**
- Control the safe execution of the work performed by the (sub)contractors working on the project, based upon permit to work.
- Identify and classify high-risk activities and participate in developing Job Safety Analysis for these activities.
- Stop work that is not being executed in a safe manner (EVERYBODY's RESPONSIBILITY!!).



Role Discipline Supervisors

- Discipline Supervisors are 'KEY' in Safety Awareness process
- Leading by example (Pulse 'You are the message').
- Assess the hazards in the immediate work area and the use of JSA/ LMRA for the task.
- Discuss the identified hazards and controls with their team (Start-Work meetings).
- Put in place extra precautions if necessary.
- Check throughout the day (not 'just' prior to the job) if precautions and controls are being followed by the team.



6. Communication

On site

- Induction + specific instruction/ training
- Daily Co-ordination meeting
- Weekly HSE Meeting
- Start-work meetings
- Progress meetings
- **Communication Home Office**
- HO Construction HSE Engineer
- Site visits/ auditing Management Home Office Zoetermeer
- Annual HSE meeting Construction Department Home Office Zoetermeer





Induction/ examples



PRE-TASK TALK/ LMRA

- Everyone must attend a pre-task talk and perform the Last Minute Risk Analysis (LMRA) before starting work
- ► The talk should be led by the supervisor
- Discussion should concern hazards of the work about to be performed
- ► Please share any concerns or lessons learned from previous jobs





12 KEYS FOR SAFETY

- 1. PPE
- 2. HOUSE KEEPING
- 3. WORK AT HEIGHT
- 4. CONFINED SPACE
- 5. EXCAVATION
- 6. ENVIRONMENT
- 7. TOOLS & EQUIPMENT
- 8. PTW
- 9. HAZARDOUS MATERIALS
- 10. LIFTING & RIGGING
- 11. ELECTRICAL SAFETY
- 12. ROAD SAFETY









Inform Supervisor





• You must report all:

- incidents
- near misses
- injuries (however small)
- spills, fires
- work related illness
- on the day they happen!



 This is so we can investigate them, learn from them and make the workplace a safer place for everyone



7. Monitoring of HSE

- HSE Audits/ Site visits Home Office
- Monthly reporting of HSE statistics (incidents, observations) per project and Home Office overall report
- 'Smiley board'/ Top 6 topics (Daily Observations)



8. Lessons Learned/ Trend Analysis

Sharing

- Observations/incident reporting & investigation (team approach)
- Trend Analysis sites and Home Office
- Results: actions (training/ attention/ improvement plans)



Trend analysis - example

1	echn	Monthly Trend Analyses		Project No. 32049/32041/32057 Projects 2011					Doc. Type NM			Works Code 6100			Rev. 0
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2	Knowledge	Lack of knowledge, skills	4	5	3	3	3	o	0	0	0	0	0		18
.3		Lack of discipline	2	6	0	0	0	0	1	0	5	2	1		17
.4	Behavior	Negative attitude toward HSE, lack of belief	16	16	2	5	6	2	2	1	2	0	1		53
.5	Denotion	Non compliance with procedures	1	4	13	1	1	1	0	1	12	18	8	-	61
.6	-	Violation of HSE Rules and Regulations	2	7	9	1 24	1	2 35	23	0	5	18	8 40		53
.8	Use of PPE	PPE not used PPE wrongly used	3	8	39	0	15	6	23	14	61	5	40		403
.9		Using defective tools/equipment	10	9	9	6	7	4	1	3	3	0	0		52
10	Use of tools & equipment	Incorrect/improper use of tools/equipment	1	7	3	0	0	1	1	0	1	1	1		16
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.5		JSA Not available	0	0	0	0	0	0	0	0	0	0	0		0
.6	JSA	JSA Not followed	0	1	0	0	0	0	0	0	0	0	0		1
.7		LMRA Not available	0	0	0	0	0	0	0	0	0	1	0		1
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# Annual HSE Meeting

Actions Annual HSE meeting Construction Department, December 2011.

- Update Top 6 topics ('Smiley board') 2012 for sites, based upon 2011 Trend Analysis.
- Focus on Nr. 1 and 2 Top 6, PPE & Behavior/ procedures (Safety awareness & Communication to be improved).
- Re-defining Categories Daily Observations Logbook.
- Make Trent Analysis process more transparent .
- Increase involvement Subcontractors (EPCm AND Construction Advisory Services) in Daily Observations Logbook.





#### **Technip Benelux**

- Absolute commitment to HSE
- Continuously increasing Construction HSE Awareness
- 8 years without LTI
- Growing Team HSE Achievement (Bradley)







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