



# Keolis Group Safety organisation an example Fjord1 Partner in Bergen

OSLO, 7th November 2012

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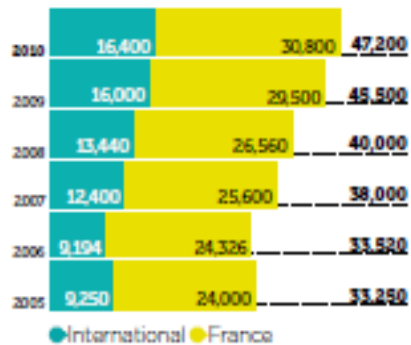
# Topics cover

- Keolis & Fjord 1 Partner in Brief
- Organisation for Safety : get people aware
- Process & Tools
- Our pitfalls, challenges & learning
- Bergen : a good example

# Keolis in Brief

Keolis

Change in employee numbers since 2005



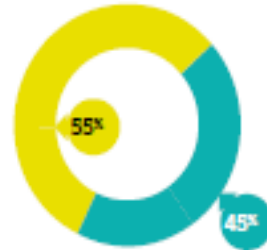
70%



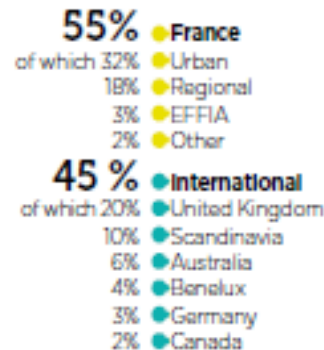
Caisse de dépôt et placement du Québec

30,000  
drivers

30%



2010 Revenue breakdown



A Worldwide Public transports  
Operator leader  
in Europe & across the world:

“Develop **tailor-made mobility**  
solution to suit the needs of local  
authorities in tune with **the changing**  
**travel patterns of today's**  
**passengers**”

## Multimodal Operator

- Bus & Coaches
- Tram
- Metro
- Passengers trains

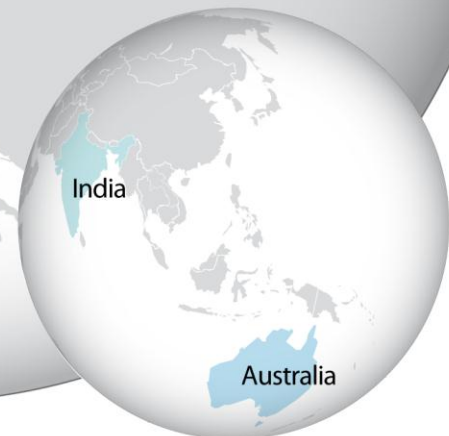
## Services Provider

- |                         |                   |
|-------------------------|-------------------|
| Bike rental             | Airport Shuttle   |
| Car Sharing             | Airport Operation |
| PRM services            | Sea Shuttle       |
| Parking services -Effia |                   |



Keolis

Keolis  
Worldwide





# Fjord1 Partner

Keolis

Fjord1

Fjord1 Partner  
GROUP Keolis

## Key figures (from 2011)

- Employees per: 2.183
- Vessels (ferries, passenger boats): 81
- Transported passengers (ferry, boat, bus): 30,6 million
- Transported vehicles on ferries: 10,2 million
- Operating income NOK 2.980 million

9.8 km of Tram line (3.6 km extension in 2013)

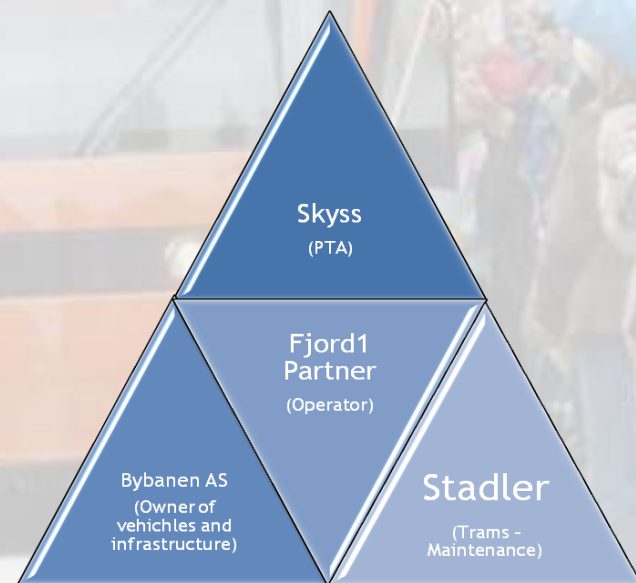
15 stations

14 vehicles

29,600 passengers/day

1,056,000 km/ year

80 employees



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# Organisation for safety: accidents situations



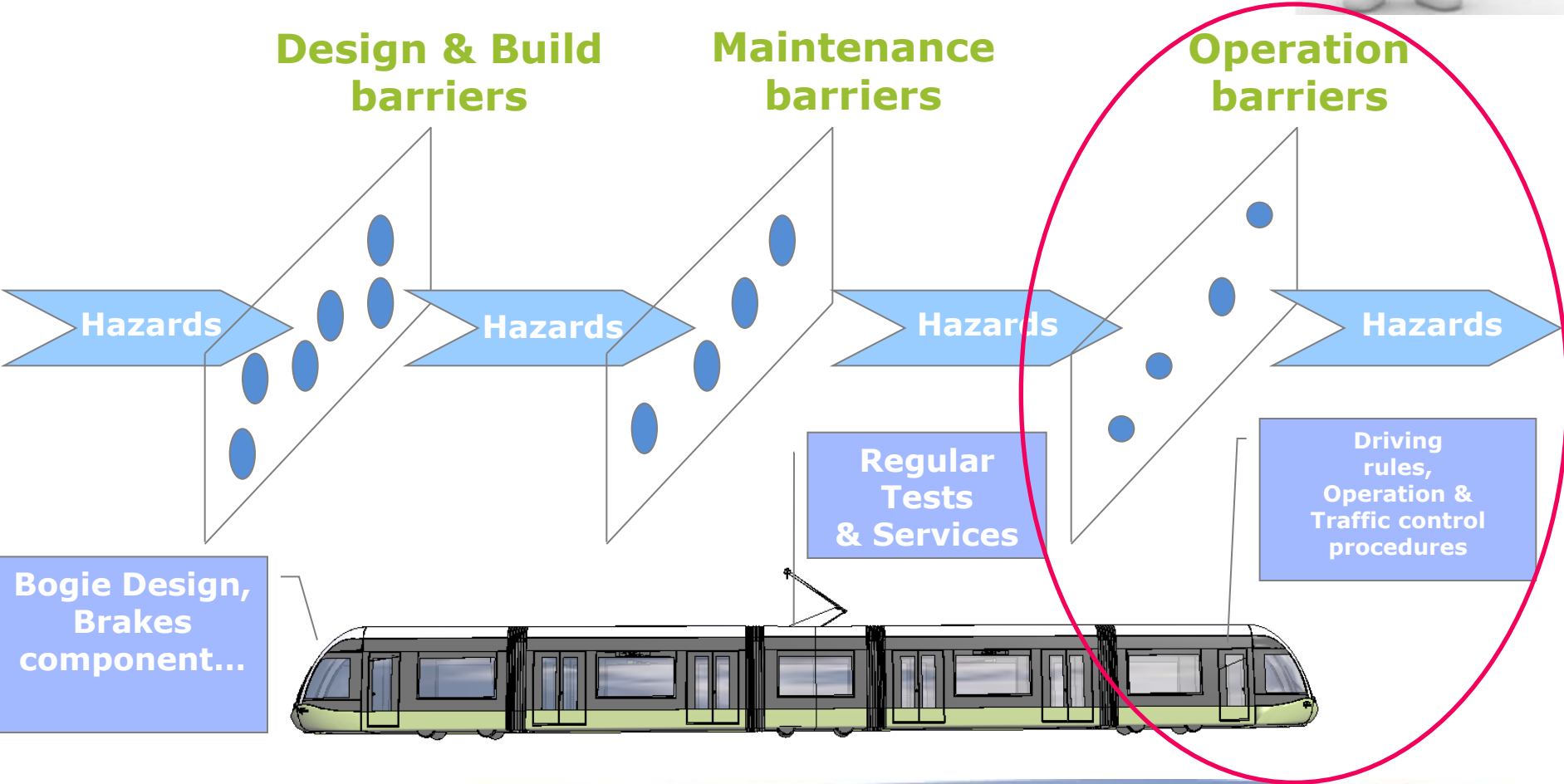
Le poids lourd s'est renversé après avoir percuté le tram : la cabine du chauffeur, atteint aux jambes, a été partiellement broyée et a légèrement déraillé.

© Christophe Gallet



Specificity of Tram operation is the urban environment.  
How to make it safe ?

# Organisation for safety : risks mitigation





# Safety for operation: Key factors

## Urban environment

**SAFETY  
for OPERATION**

**Sub-  
SYSTEMS  
Safety**

Maintenance  
Plans

Maintenance  
Operators  
skills

**Traffic  
Monitoring  
& Control**

Dispatching rules  
Operation plan,  
Emergency plan,

OCC  
operators  
Competencies  
Knowledge

**Tram  
Driving**

Operating  
Rules  
Driving  
Rules

Drivers  
Competencies  
Knowledge

Rules, procedures and plans are key BUT  
High competencies & knowledge are MANDATORY



# Organisation at Group level

- Safety Governance
  - Shareholders level
  - Group level
  - Specific for Metros & Trams operations
- Have consistent Key Safety Indicators
- Put in place strong return on experience, sharing of good practices and training org.
- Have Safety managers aware, focus & communicating together
- Continuous improvement plans for safety

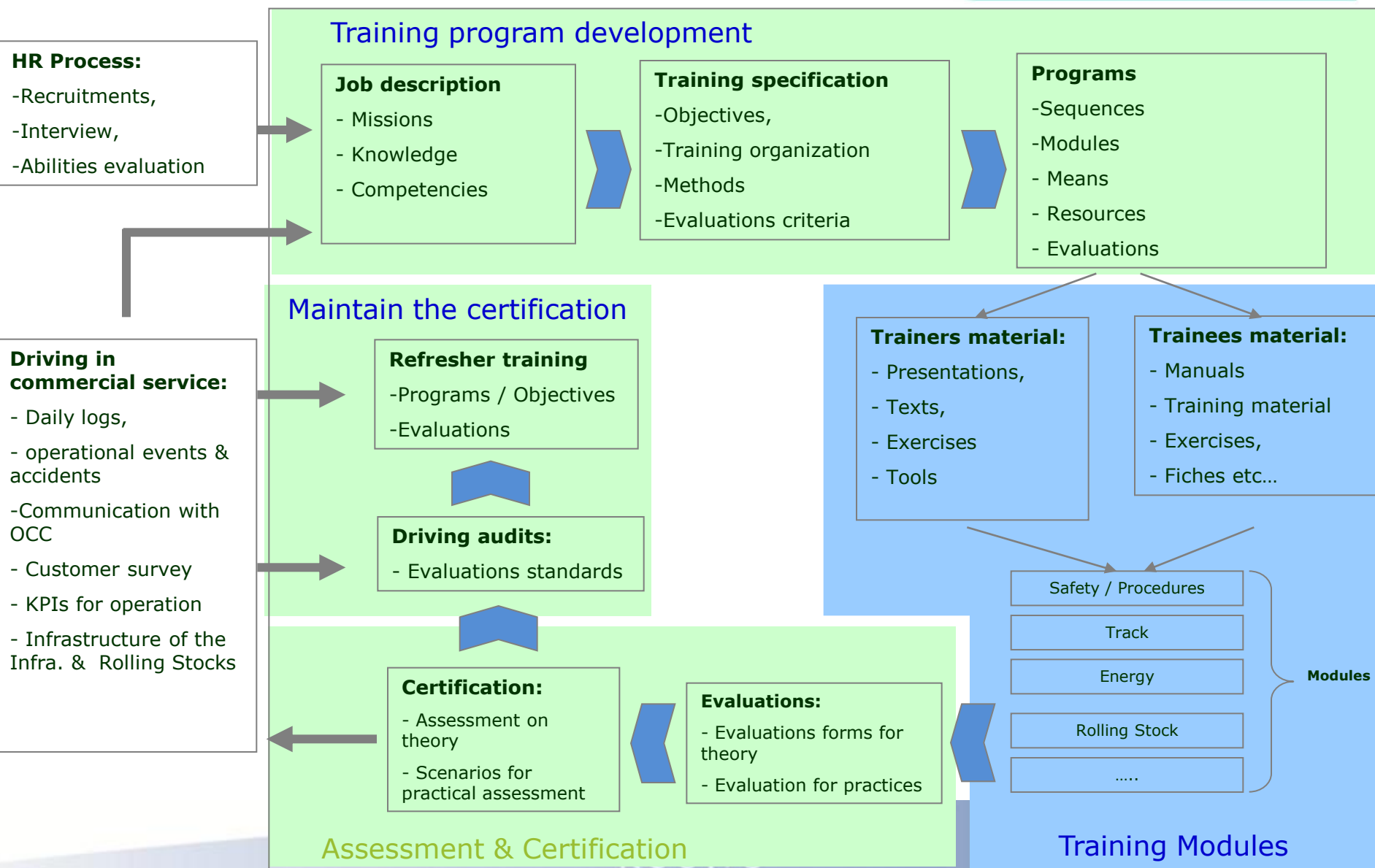


Local operations remain responsible and fully empowered to manage safety. Safety Culture is a MUST.

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- **Process & Tools**
- Our pitfalls, challenges & learning
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# Tools: Training standard



# **Simulation tools as key components for the improvement of the safety**

**Put drivers trainees in situations: normal & degraded modes**

**Train to procedures rarely applied or complex to exercise**

**Check their skills and competencies**

**Have multiple case of near accidents or accidents situation: cars, pedestrians, bicycle...**





# Tram diving simulator: characteristics

## Dedicated Virtual line: designed for training purposes « only »

- To represent different urban environments,
- To have different case of tram traffic situation,
- To provide a specific environment applying local rules,

### Main characteristics of the line:

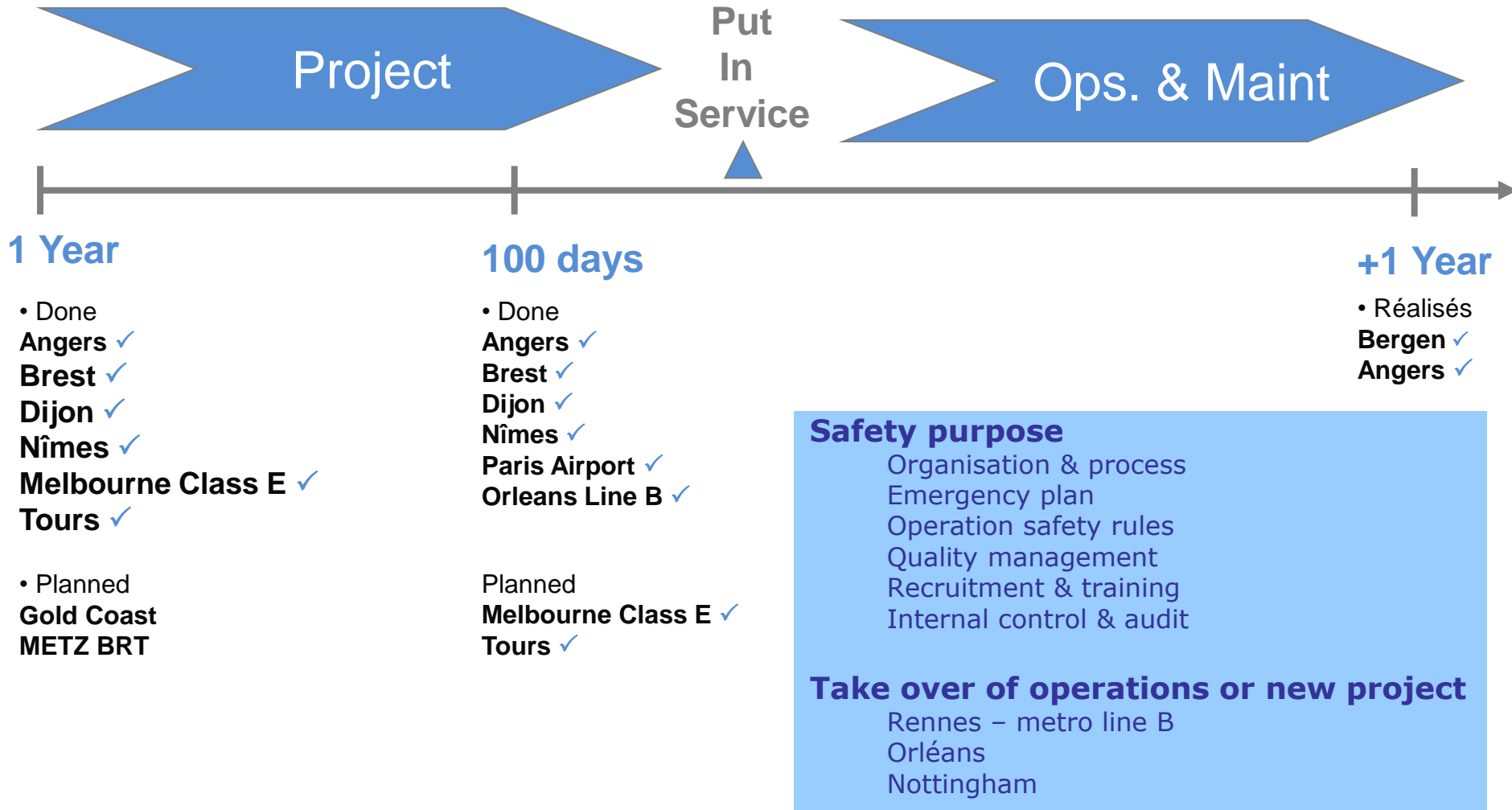
- 7 km, 18 Stations
- 4 different types of terminus
- 1 depot area : inbound / outbound
- Multiples ambiances for urban environment
- Road Traffic & railways Signaling, Power distribution
- Multiple type of situations of accidents with cars, pedestrians, bicycles...
- Pedestrians in stations with different situations...

**Appropriate training organisation, programs and tools appear as key factors for safety improvement.**





# Process: audits activity



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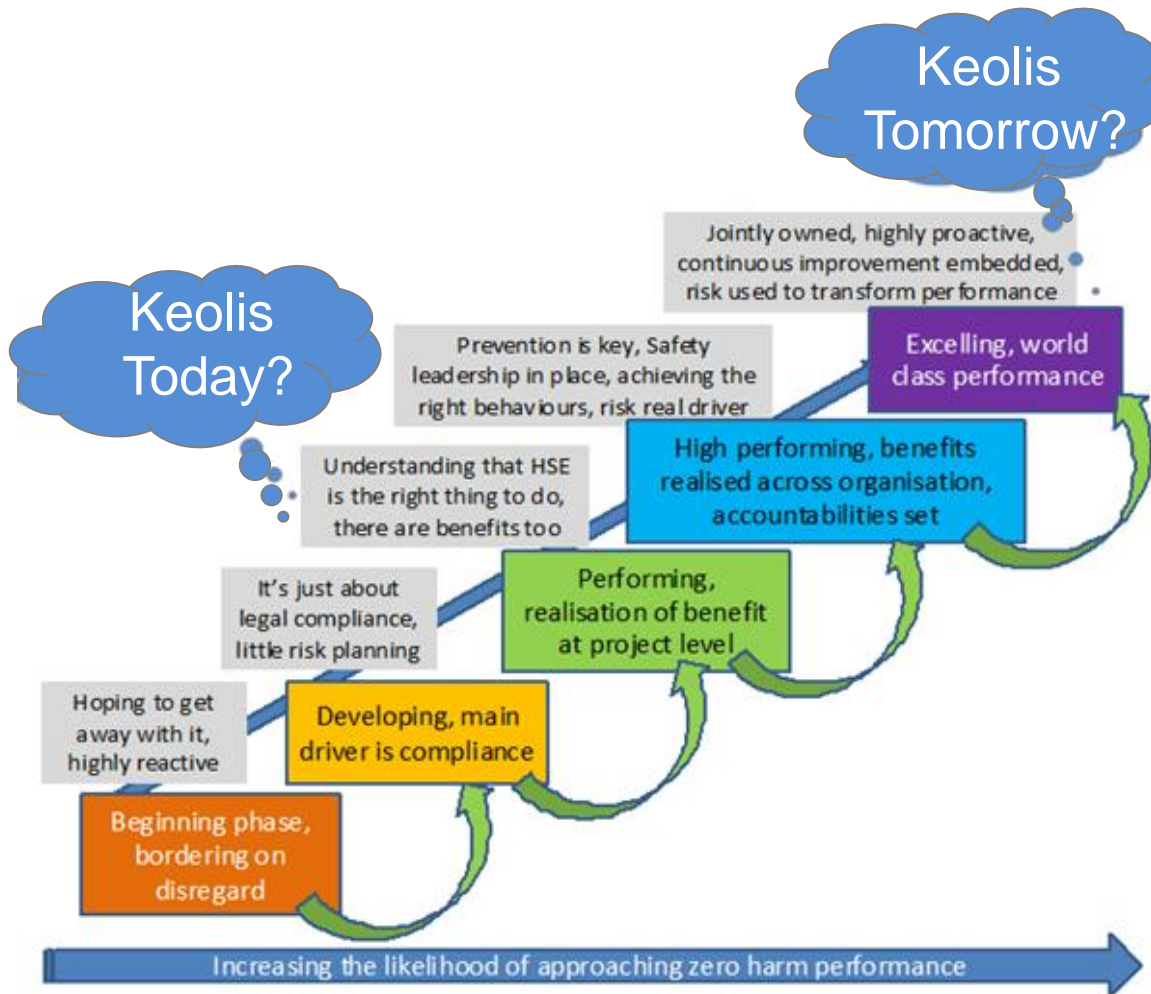
# Our pitfalls, challenges & learnings

- **Keolis has never been faced to serious accident situation where our responsibility has been engaged in Train, Tram or metro**
  - for example no responsible accident in Metro since 30 years,



Keolis activities expansions require now to got to a next step to continue this challenge

# Our pitfalls, challenges & learnings



1

## A VISION

What shall be the minimum level of requirements to set up to operations ?

2

## The coordination

What shall be our processes / procedures to adapt?  
What shall be the level of control to apply?

3

## The changement

How to reach this highest level of safety for our customers  
Employees & the environment ?



Thank you for your attention





# BYBANEN

## Sikkerhet i drift

07.11.2012

SJT - Sikkerhetsseminar 2012

Trond Magne Målsnes,  
Sikkerhets- og kvalitetssjef



**bybanen**  
BERGEN LIGHT RAIL

**Fjord1 Partner**  
GROUP Keolis

Engasjerte og fokuserte  
medarbeidere.

Effektiv, sikker og miljøvennlig drift.





# HVA ER FOKUSET VÅRT?





# BYGGE SIKKERHETS- KULTUR!

... eller sikkerhet,  
sikkerhet og sikkerhet!





**KUNNSKAP**



# ...kunnskap om trasé





A photograph of a transit station at night during a rainstorm. The wet pavement reflects the lights from the tram, buses, and streetlights. A tram is stopped at a platform, and several buses are visible in the background. Pedestrians, including one with a white umbrella, are walking on the sidewalk. The scene is illuminated by the warm glow of the station's lights and the cool blue of the night sky.

**..lese  
trafikkbildet**

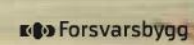
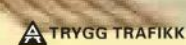
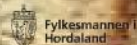




# Ta ansvar for egen sikkerhet

Bybanen er nesten helt lydløs. Se deg godt om før du krysser sporet.

**skyss**  **bybanen**





# ...håndtere hendelser





# ..kjenne faremomenter





..unge gutter  
med hette og  
hodetelefoner







ERFARING



...førerløs bil







**BEVISSTHET**



...egen rolle i  
trafikkbildet





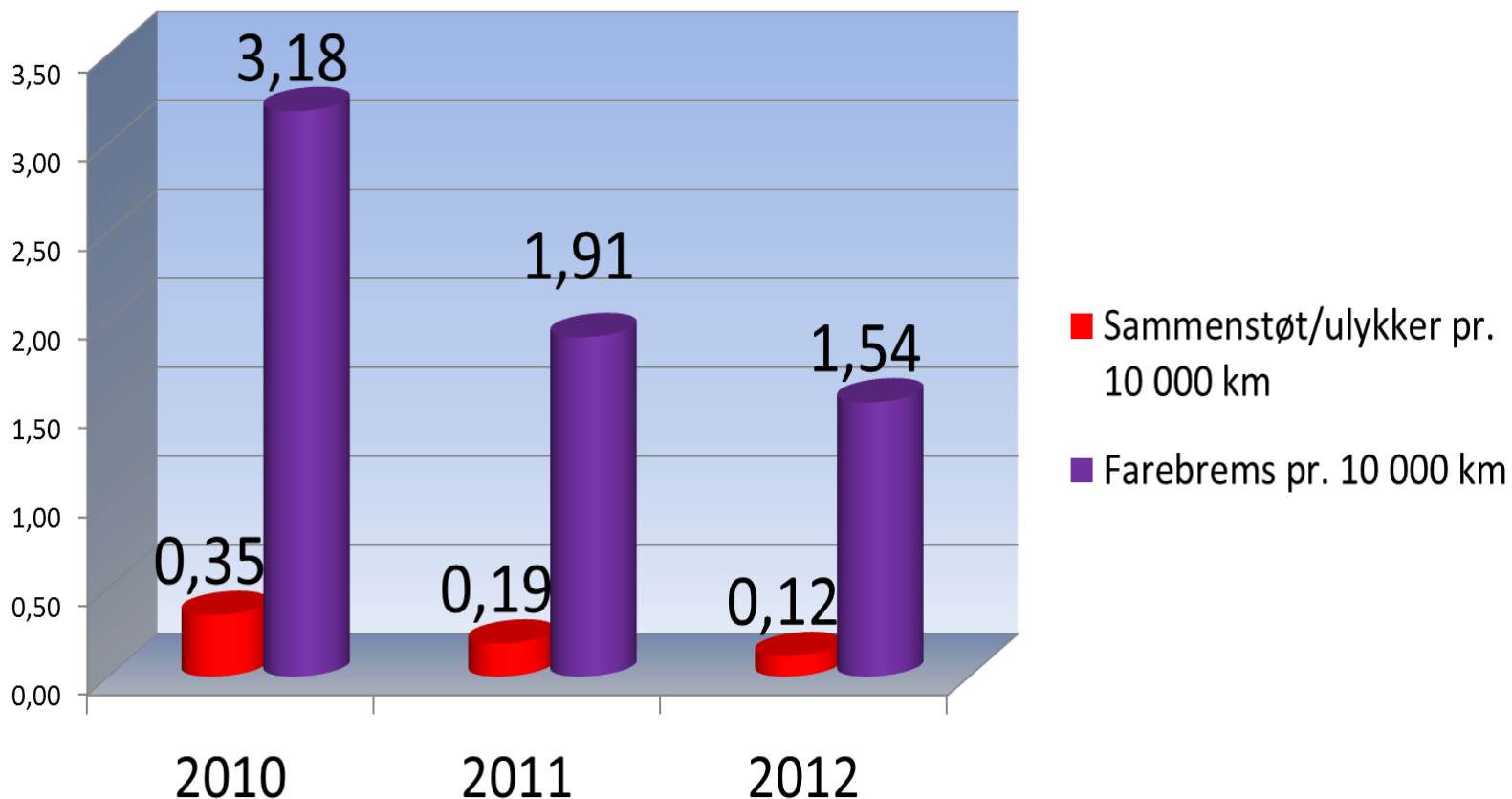
...innrapportering av  
hendelser

og  
håndtering  
av hendelser



## RESULTATER – Sikkerhet

**Ulykker og farebrems viser synkende trend.**





...fortsatt høyt  
sikkerhetsfokus  
videre mot Lagunen



A black and white photograph of a modern tram traveling down a city street. The tram is in the center of the frame, moving away from the viewer. The street is lined with buildings and has tram tracks. The image is slightly blurred, giving a sense of motion.

**Takk for  
oppmerksomheten!**