



IRSC 2022

INTERNATIONAL RAILWAY
SAFETY COUNCIL

SEVILLA, OCTOBER 16-21, 2022



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HOW TO POPULARIZE BOW-TIE RISK ANALYSES WITHIN SNCF



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PRISME : A MAJOR SAFETY PROGRAM

P R I S M E

Proactivity

Risk management

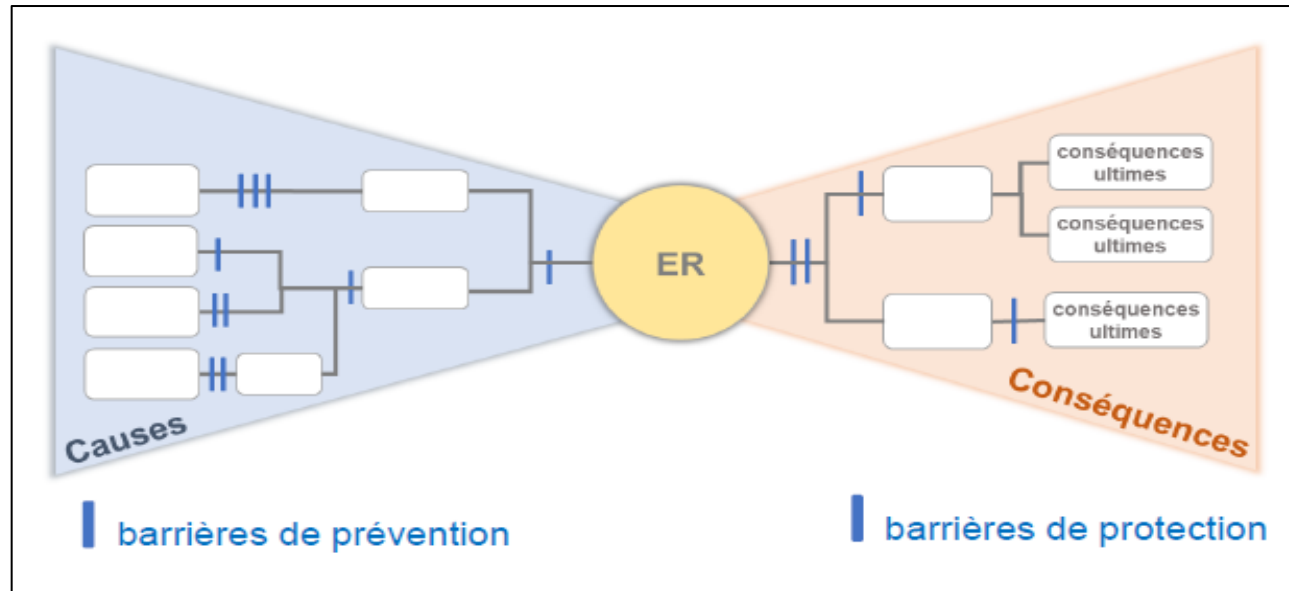
Interfaces

Simplification

Management

Equipment

THE BOWTIE MODEL: CHOICE OF SNCF





AMBITION AND METHOD



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1. THE RISKS PROJECT



2. METHOD

WHAT DO WE NEED ?



3 major needs were identified:

- develop **staff risk awareness**
- perform **efficient safety event analyses**
- allow **quantitative method**

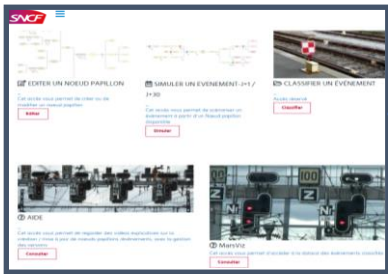
3. A DEDICATED IT TOOL FOR BOWTIES: MARS

Modélisation et **A**nalyse des **R**isques de **S**écurité

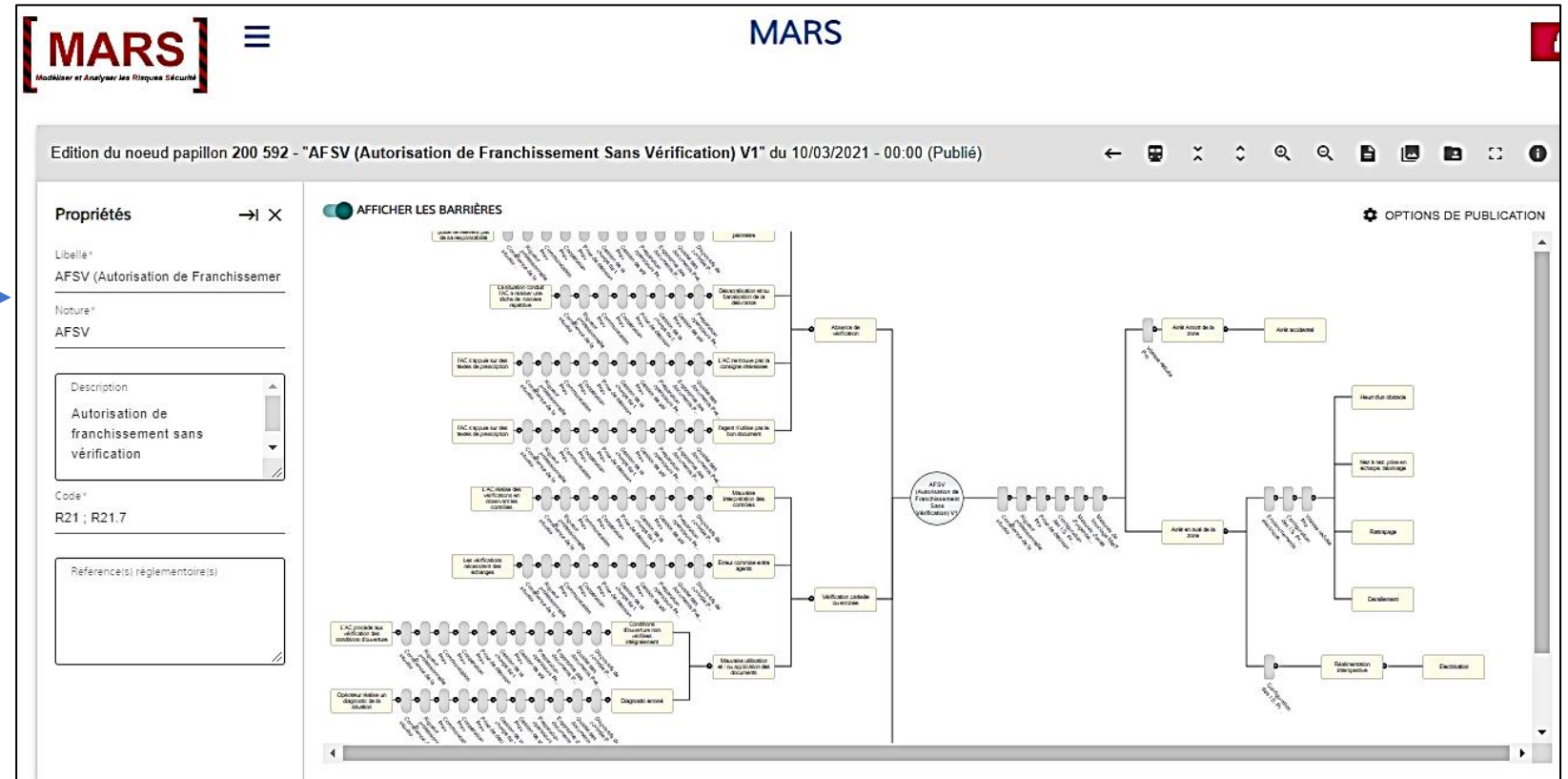
= Safety Risks Modelling and Analysis

3. A DEDICATED IT TOOL FOR BOWTIES: MARS

M.A.R.S.

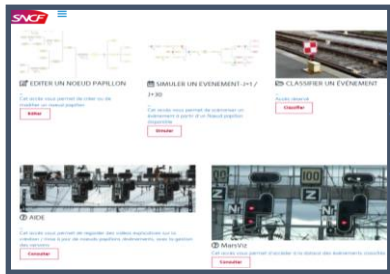


1-DESIGN

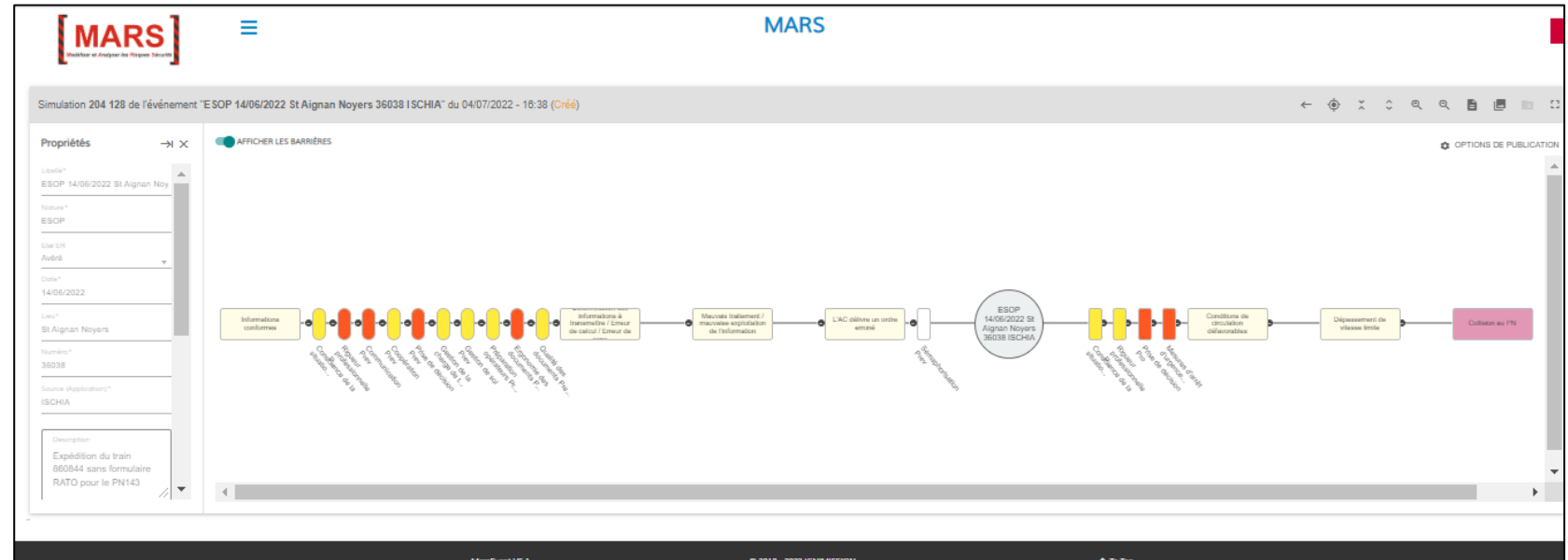


3. A DEDICATED IT TOOL FOR BOWTIES: MARS

M.A.R.S.

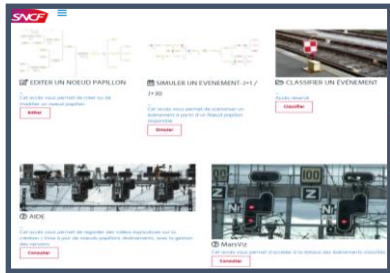


2-SIMULATION

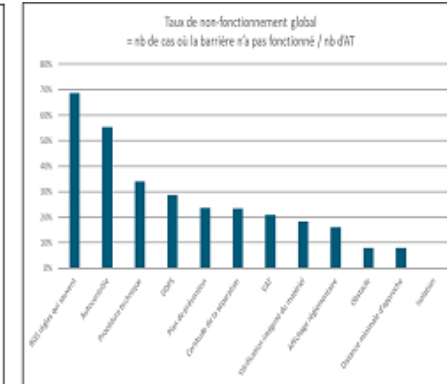
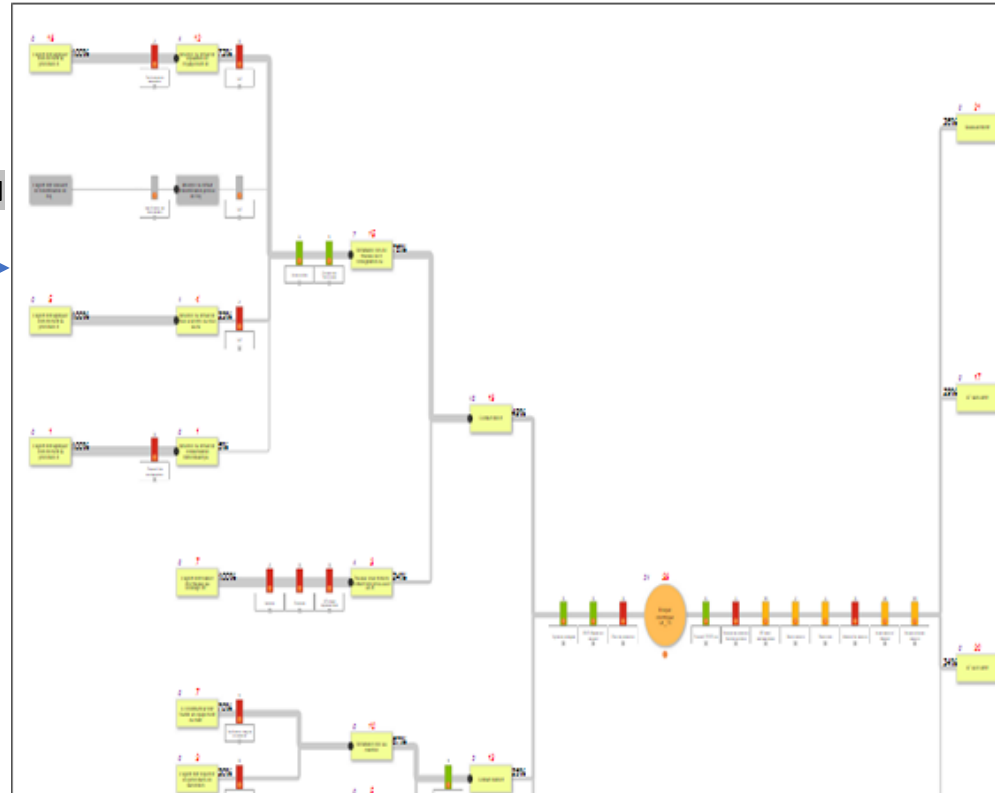


3. A DEDICATED IT TOOL FOR BOWTIES: MARS

M.A.R.S.



3-DATA VISUALIZATION AND ANALYSIS

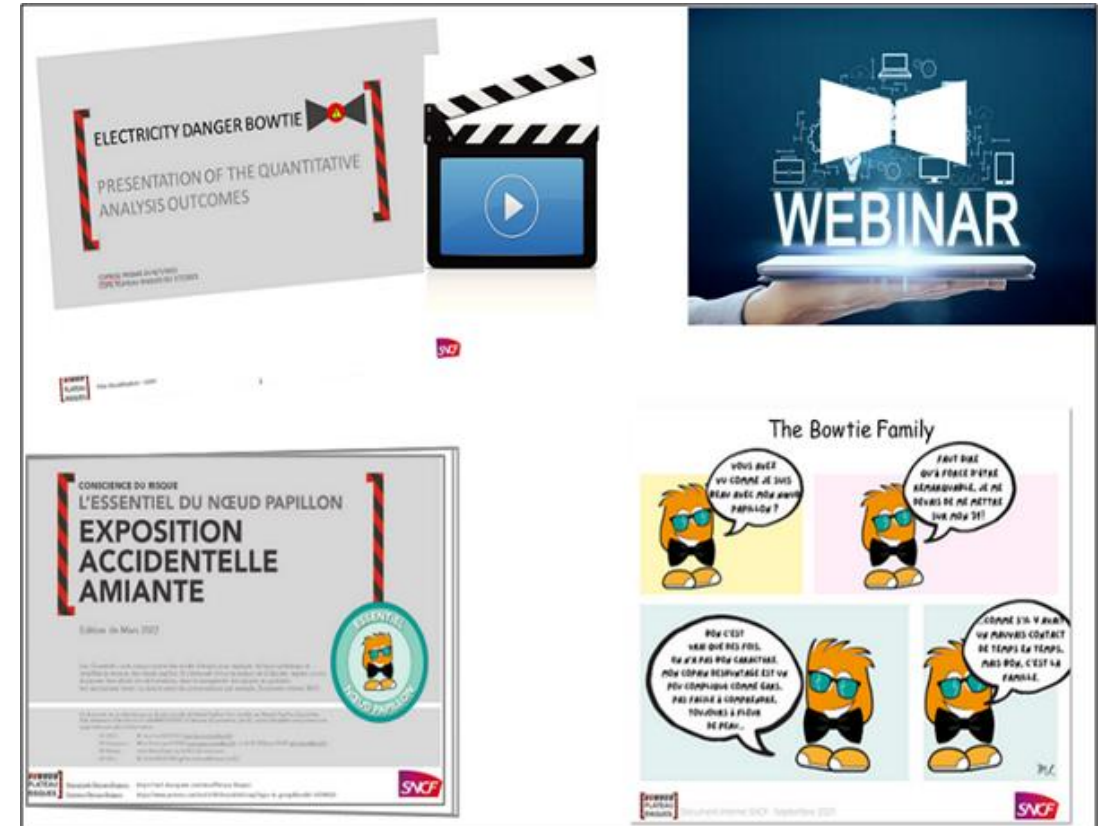
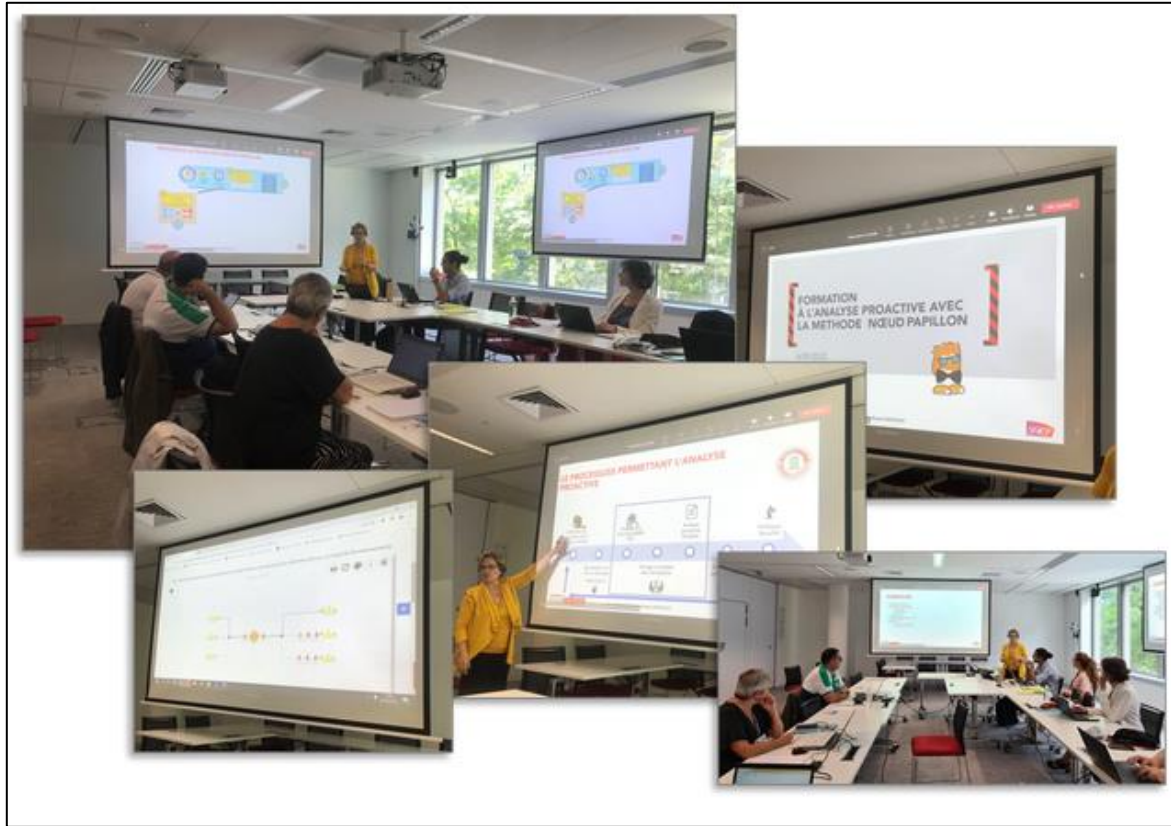


4. BUILDING A GROUP WIDE BOWTIE LIBRARY



- A library of 25 bowtie schemes (8 Health & Safety risks, 17 railway operations safety risks).

CHANGE MANAGEMENT: TRAINING & COMMUNICATION



RESULTS



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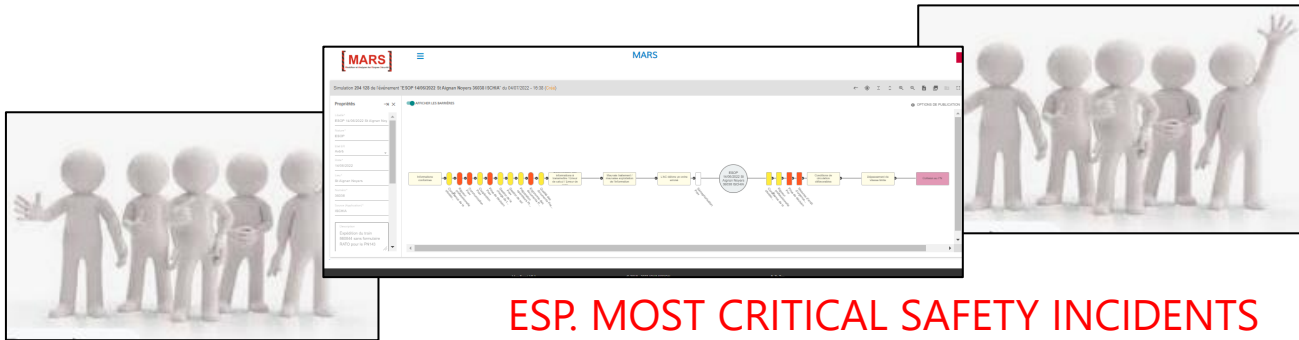


RESULTS (MID 2022)

400 USERS

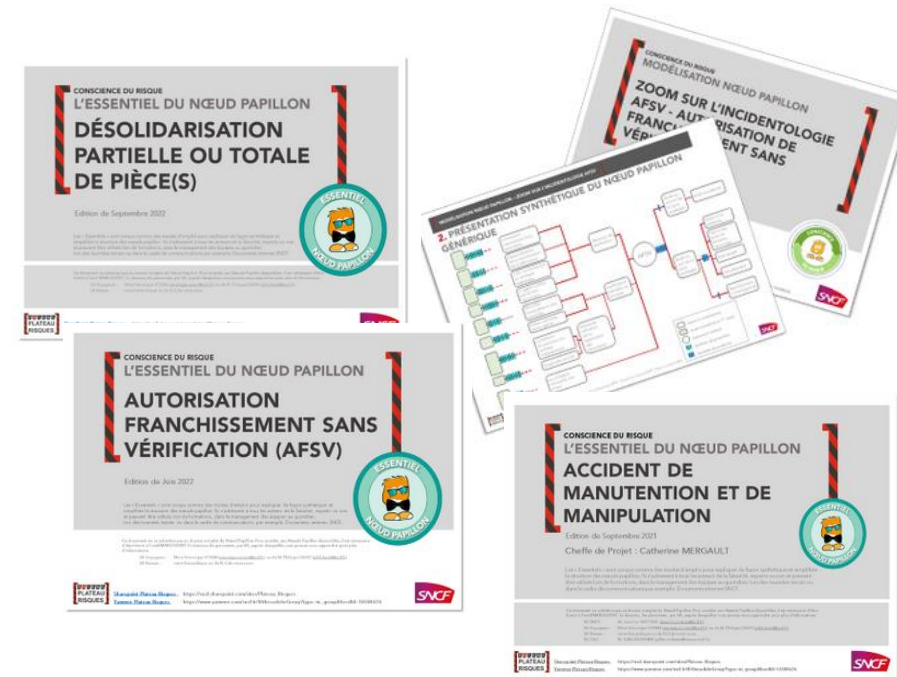
OVER 1000 SIMULATIONS

25 INCIDENT TYPE BOOKLETS



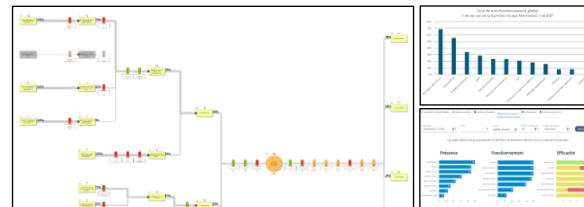
ESP. MOST CRITICAL SAFETY INCIDENTS

10 STUDIES AVAILABLE



IN PROGRESS

TRAINING FOR PROACTIVE SAFETY ANALYSIS



CONCLUSION



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CONCLUSION

MAIN LESSONS LEARNED



4 main pillars for a large scale, group wide project :

- **Sponsorship by top management**
- **Beginning by identifying the needs**
- **Group-wide project team**
- **Training and internal communication, using pragmatic solutions.**



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