

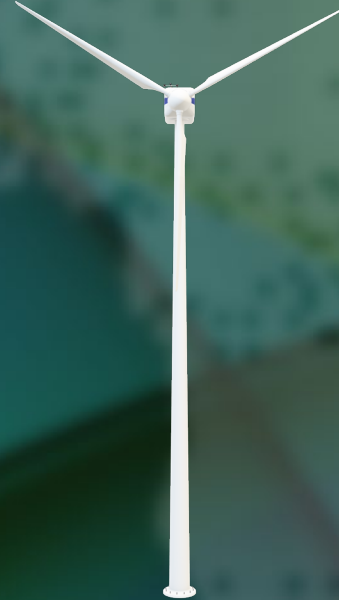
# Basics of Engineering Insurance

Date: 12 August 2021

Speaker: Nomxolisi Solo



1. Introduction
  - MR Facultative F&C
  - Fundamentals of engineering insurance
  - Exposures and main perils
  - Main classes of engineering insurance
2. Individual loss examples
  - Man-made losses
3. Munich Re engineering
  - Products & services
4. Conclusion & future challenges





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# Introduction



# Munich Re Facultative & Corporate (F&C) bundles the worldwide facultative and corporate business in one unit

Corporate  
Insurance  
Partner

Facultative  
Reinsurance  
Units



MR F&C

- This gives us even **more power** to serve our cedants, corporate clients and brokers to sustainably expand and accelerate the insurance industry
- With the new set up, we are an **even stronger partner** for our cedants, corporate clients and brokers



MR F&C is based on a strong international presence to be close to its cedants, corporate clients and brokers

We serve our cedants, corporate clients and brokers from **MORE THAN 20 LOCATIONS** worldwide

Our organization is based on **LINE OF BUSINESS TEAMS IN MUNICH** and **3 REGIONAL RESPONSIBILITIES** for the local offices

All offer products and solutions **ACROSS ALL LINES**

**COMPETENCE CENTERS FOR CYBER AND ENERGY** are located in Munich



# Facultative Property / Engineering Team MRoA

**Uwe Kutschera**  
MR F&C APA / MR Singapore



**Simon Robinson**  
Manager Facultative  
Underwriting

**Belhassen Tonat**  
Head of Non-Life MRoA



## Property

**Daphne Sitole**  
Senior Underwriter

**Irmgard Brem**  
Senior Underwriter  
Munich

**Teresa Sardinha**  
Underwriter

**Linda Weleguela**  
Underwriter

**Alice Shoba**  
Junior Underwriter

**Shannon-Lee Pires**  
Junior Underwriter  
Munich

## Engineering

**Philani Mbatha**  
Senior Underwriter

**Falko Schwaetter**  
Senior Underwriter  
Munich

**Thomas Kibet**  
Underwriter

**Ouattara Romeo**  
Underwriter

**Nyiku Nkuna**  
Junior Underwriter  
Munich

**Nomxolisi Solo**  
Junior Underwriter

# Facultative Engineering Team

## MROA



**Simon Robinson**

Manager Fac Underwriting

+27 72 397 5651

[SRobinson2@MunichRe.com](mailto:SRobinson2@MunichRe.com)



**Philani Mbatha**

Senior Underwriter

+27 11 242 2123

[PMbatha@munichre.com](mailto:PMbatha@munichre.com)

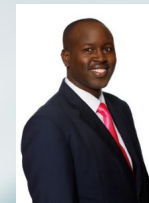


**Falko Schwaetter**

Senior Underwriter

+49 (89) 3891-3754

[FSchwaetter@munichre.com](mailto:FSchwaetter@munichre.com)

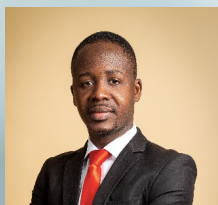


**Thomas Kibet**

Underwriter

+27 11 242 2164

[TKibet@munichre.com](mailto:TKibet@munichre.com)



**Romeo Ouattara**

Underwriter

+225 07 58 59 92 88

[ROuattara@munichre.com](mailto:ROuattara@munichre.com)

m



**Nyiku Nkuna**

Junior  
Underwriter

+49 (89) 3891-5316

[NNkuna@munichre.com](mailto:NNkuna@munichre.com)



**Nomxolisi Solo**

Junior  
Underwriter

+27 11 242 2109

[NSolo@munichre.com](mailto:NSolo@munichre.com)



Image: credits to Deutsches Museum München

- 19th century Industrial Revolution in England origin of engineering insurance
- 1854 foundation of Manchester Steam Users Association
- 1859 foundation of the Steam Boiler Assurance Company
- 1866 Hartford Steam Boiler Inspection & Insurance Company was founded
- 1900 introduction of the Machinery Insurance by Allianz AG, invented by Munich Re
- 1924 launch of the EAR insurance cover Atlantic and Allianz insurance with Munich Re support
- 1929 first record of Contractors' All Risk insurance for Lambeth Bridge across the Thames in London





# Fundamentals of engineering insurance



Image: used under license from shutterstock.com

- Wide range of risks in terms of values / period / technology
- Indemnity for sudden and unforeseen physical loss
- All risk / Named perils policies
- Construction / Erection (Project) – Operation
- Multitude of different hazards
- UW requires technological know-how



### Engineering typical exposures

- Design incomplete
- High development frequency
- Early launching of products
- Construction / erection details novel
- Construction / erection method new or inappropriate
- Materials untried or behaviour unknown
- Lack of skill
- Lack of control
- Vulnerability to natural hazards

## Main classes of engineering insurance

### Cover for construction or erection (Project)



#### CAR – Contractors all Risk

- Infrastructure projects (tunnels, roads, bridges)
- Building complexes
- Hydropower projects
- Wet structures (dams, land reclamation)



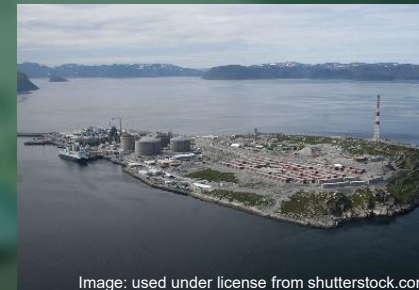
#### EAR – Erection All Risk

- Industrial complexes
- Refineries
- Power plants
- Steel mills
- Cement factories



#### CEAR – Construction & Erection All Risk

- Combines EAR and CAR policy into one policy



#### CPI – Comprehensive Project Insurance

- Combines EAR and CAR policy into one policy
- Extended by Marine Cargo (DSU)



## Main classes of engineering insurance

### Cover for operation



#### **M (MB)** – Machinery Breakdown

Operation of machines, plants, installations, ...



#### **EE** – Electronic Equipment

Operation of computers, mainframes, control centres, telephone switching stations, medical equipment



#### **CMI** – Comprehensive Machinery Insurance

Operation of machines, plants, installation, ...

Full protection against internal and external hazards



#### **CECR** – Civil Engineering Completed Risks

Operation of highways, tunnel, bridges, railways, ...



## Introduction

# Main classes of engineering insurance

## Cover for loss of Profits



### MLoP – Loss of Profit Insurance (Business Interruption)

Loss of gross profit due to physical damage indemnifiable under operational power



### ALoP/DSU – Advanced Loss of Profit/Delay in Start-up

Loss of gross profit due to a delay in completion as a result of physical damage indemnifiable under operational power

## Special covers



- IDI – Inherent Defects  
(Decennial-, quinquennial liability)

# 3 Individual loss examples





# Individual loss examples

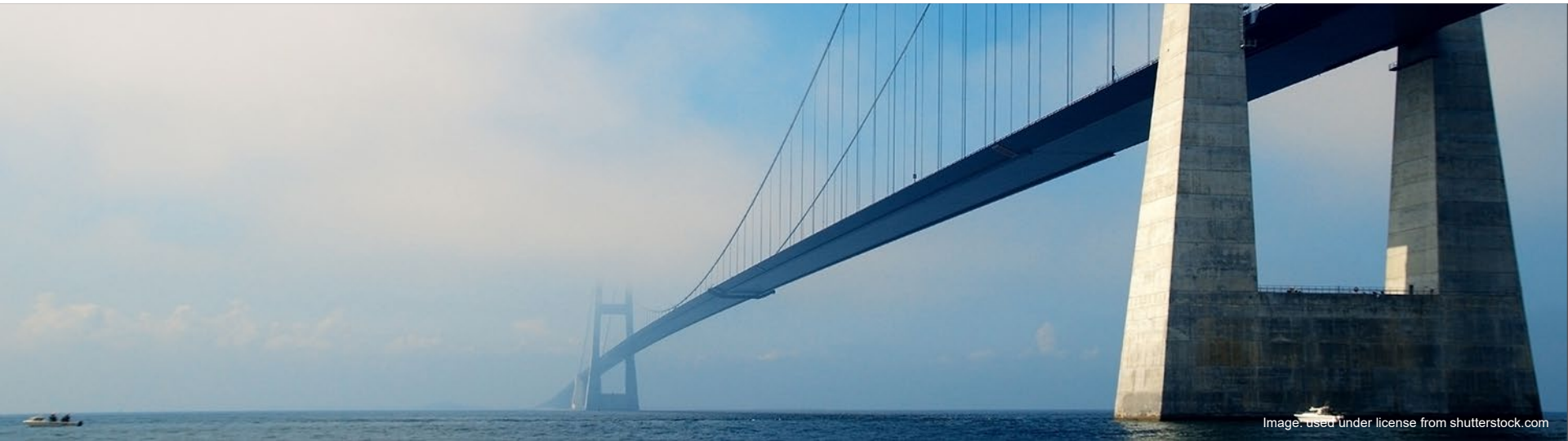
## Man-made losses



### Grenfell Tower Fire, North Kensington, West London-2017

- Grenfell is a 24 storey block of flats
- After a fridge freezer malfunctioned on the 4<sup>th</sup> floor, leaving 72 people dead and more than 70 people injured.
- The fire lasted for 60 hrs

# 4 Munich Re Engineering



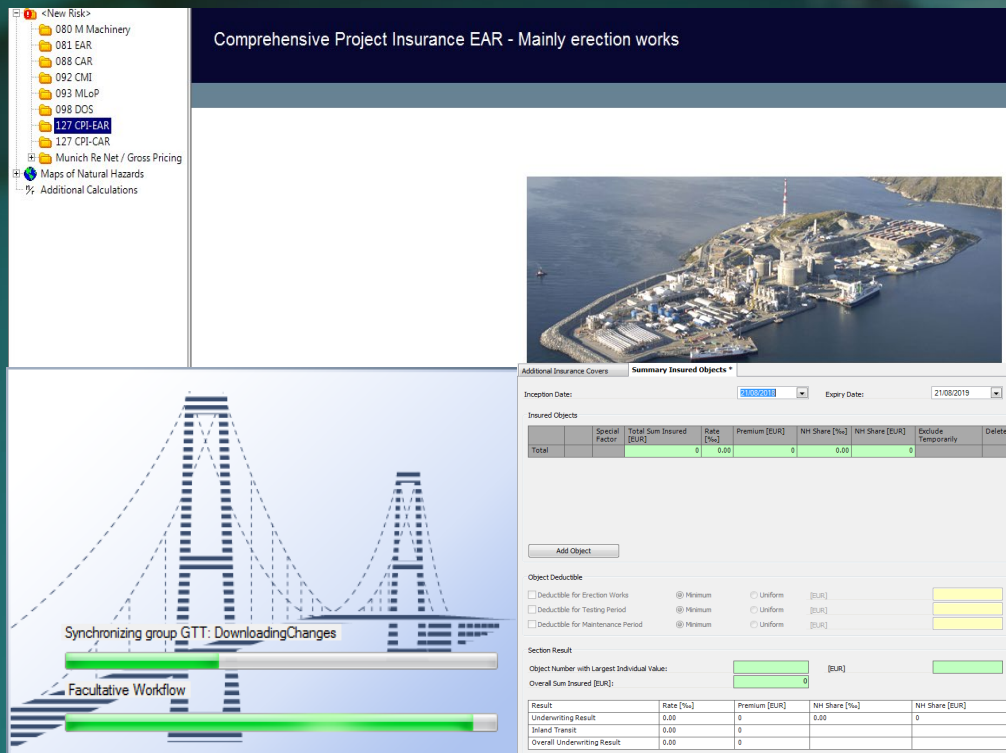


# Munich Re Engineering

## Products & services – Connect.MunichRe

### Munich Re - [connect.munichre.com](https://connect.munichre.com)

- Munich Re's exclusive client portal
- Offers 24-hour access to valuable expertise and up-to-date information on insurance topics
- Useful tools and secure project rooms
- Registration on Connect.MunichRe



Comprehensive Project Insurance EAR - Mainly erection works

Summary Insured Objects \*

Inception Date:	Expiry Date:	Insured Objects	Total Sum Insured [EUR]	Rate [%]	Premium [EUR]	NH Share [%]	NH Share [EUR]	Exclude Temporarily	Delete
18/03/2018	21/03/2019		0	0.00	0	0.00	0		

Object Deductible

☐ Deductible for Erection Works @ Minimum ☐ Uniform [EUR]

☐ Deductible for Testing Period @ Minimum ☐ Uniform [EUR]

☐ Deductible for Maintenance Period @ Minimum ☐ Uniform [EUR]

Section Result

Object Number with Largest Individual Value: [EUR]

Overall Sum Insured [EUR]: 0

Result	Rate [%]	Premium [EUR]	NH Share [%]	NH Share [EUR]
Underwriting Result	0.00	0	0.00	0
Inland Transit	0.00	0		
Overall Underwriting Result	0.00	0		

### Munich Re Engineering Expert Tool (MR-ET)

- Rating of all major engineering classes
- Recommendations and plausibility checks for important risk parameters
- Geo coding and NH exposure
- Reporting function
- Updated regularly

## IMIA - EC Members, Secretariat and Regional Representatives



Stephan Lämmle  
Munich Re  
Germany  
Co-opted  
Chairman



Secretary General  
Michael Spencer  
UK



Max Benz  
AXAXL  
Switzerland



Guido Benz  
Swiss Re Corporate  
Solutions  
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Charles Taylor Adjusting  
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Dieter Spaar  
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Matia Cazzaniga  
Zurich Insurance  
Switzerland



Marina Zyuganova  
Renaissance Insurance  
Russia



Simon Dejung  
SCOR  
Paris, France



Andy Kane  
QBE  
England



Brendan Dunlea  
Asia  
Representative



Strong presence of Munich Re at  
the

“The International Association of  
Engineering Insurers” (IMIA)

<https://www.imia.com/>

- Chairman: Stephan Lammle (Munich Re)

# Munich Re Engineering Products & services



## How Munich Re can assist

- Rating programme which is constantly updated
- Technical information, product related exposures
- Risk assessment and underwriting assistance
- Risk management and claims inspections by own engineering staff
- Standardized policy wordings & endorsements and tailor made products
- Training courses in Munich and Branch offices in various languages



# 5 Conclusion & future challenges





# Conclusion & future challenges

## Conclusion



- Large investments are ahead of us, predominantly in the energy and infrastructure sector
- Engineering is highly specialised class of business which requires specialists and multiple disciplines
- Nature of claims and type of covers result in complex claims settlement
- Long term commitments require special consideration in capacity
- Risk management matters and supports projects to be complete successfully – helps to avoid and minimise losses and enables efficient claims settlement
- Constant re-modelling of pricing parameters required
- Keeping up to date with technology is essential



# Thank you!

12 August 2021  
LIMA

Munich RE 



Your feedback matters



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