



**MIRION**  
TECHNOLOGIES

Radiation Monitoring Systems  
Division

Radiation. **Safety.**

## IGORR Conference 2017

MIRION Technologies – RMS Division

Isabelle GÜLDNER

Sydney, Australia – December 2017



## Introduction



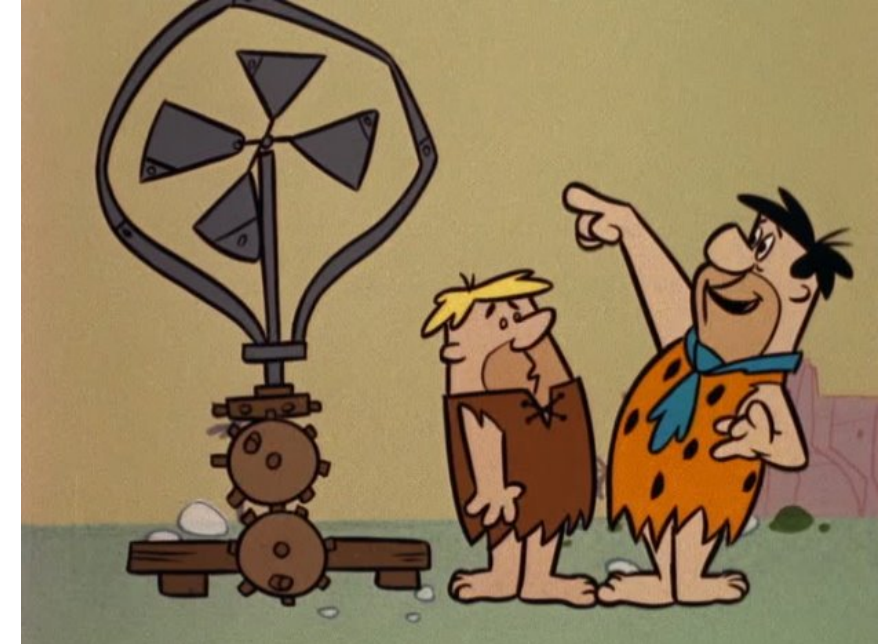
### About Myself

- 10 years experience in nuclear industry
- Team leader at Mirion in Munich, Germany



## Situation at Customer Site

- Most research reactors were commissioned in the 1950s - 1960s
- Now – System:
  - High costs to maintain systems (time, spare parts, human resources)
  - High efforts necessary to make measurements reliable – needs specialized staff on site
  - High efforts for adjustment of measurements
- Now – Environment:
  - Slight advancements in information technology
  - Different control systems
  - Change in nuclear regulations and standards
  - Advancements in (nuclear) safety systems
  - Government budget are tighter on nuclear
  - Availability of trained engineers





## How does a lobster grow?





## RMS Division : proTK™ - NFMS product family

Our **proTK™** for **Neutron Flux Monitoring Systems** combines long term experience in design and manufacturing of both detectors and signal processing electronics.

This equipment has the **highest level of safety** relevance and reliability and is qualified by several type tests and field-proven by **excellent operational experience.**



### Main characteristics proTK™ digital systems:

- Modular, multi-microprocessor system → Simple and clear
- Cycle time of signal processing starting with 5 ms → Fast
- Low heat C-MOS technology → Safe
- Software fixed in EPROM, efficient self monitoring → Reliable
- Remote signal generators and signal simulation → Testable
- Qualified according to KTA 3501/3505, IEC 60880 → Type tested



## Ask our customers

### Big wins

- Refurbishment at HOR / TU Delft (Netherlands)
- Modernization NFMS in 4 Belgian NPPs
- Increasing installation base in research reactors

### White paper Replacement of the Neutron Flux

#### Measurement System (NFMS) at four Belgian Power

#### Plants *The maintainability is excellent; the quarterly*

*periodical tests can now be executed within a short time*

*(...) The project manager at Doel expressed his satisfaction*

*with the new operational NFMS.*



Mirion NFMS products are present in many new and modernized RRs !





# Thank You!

**MIRION LOOKS FORWARD TO WORKING WITH YOU.**

## **My contact information**

**Isabelle GÜLDNER**  
Team Leader Sales & Project Management

E-Mail: **[igueldner@mirion.com](mailto:igueldner@mirion.com)**  
Tel: **+49 (0)89 51513-181**  
Mobile: **+49 (0)152 09063978**

**Mirion Technologies (MGPI H&B) GmbH**  
Landsberger Str. 328a, 80687 Munich, Germany