International Fatigue Database

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Background

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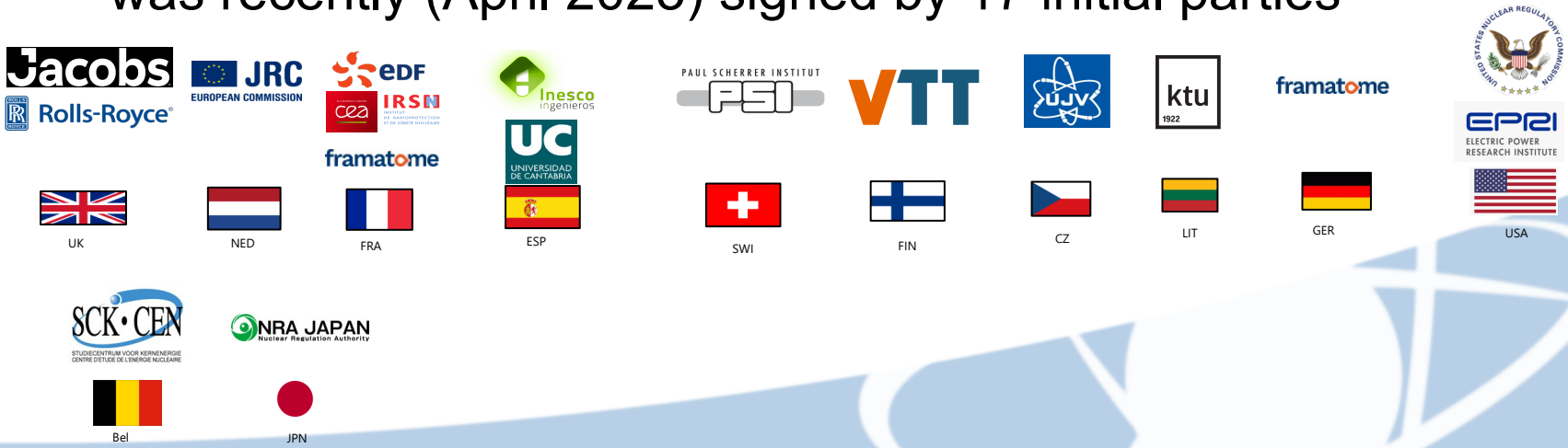
- NRC has previously created separate fatigue databases with individual partners
  - NRC-NRA (formerly JNES) created database containing results in air & LWR environments for carbon, stainless, and nickel alloy materials
  - NRC-EdF created database containing results for stainless steel materials in air
  - Used to develop NUREG/CR-6909, R1.
- Separately, other database efforts have been developed internationally
  - INCEFA+ & INCEFA-SCALE projects
  - Incorporated some MHI data during initial INCEFA+ phase and KAERI data during INCEFA-SCALE

Background

- In 2017, a broader collaboration was proposed to create an international database
  - The proposed signatories grew to cover the INCEFA+ consortium members, USNRC, EPRI and NRA
  - Technical aspects of collaboration and data sharing was reached relatively quickly (within 18 months)
  - Garnering legal agreement was much more challenging and hampered by pandemic.
- 5-year agreement covering data sharing terms and conditions was recently (April 2023) signed by 17 initial parties



Next Steps

- Add other interest signatories
  - GRS (Germany) and NRG (Netherlands) have expressed interest
  - Open to other interest organizations
    - Provide sufficient quantity and quality of data
    - Abide by specified terms and conditions
- Technical Approach
  - JRC will provide data administration of database (MatDB) as well as data entry training and support
  - Participants will develop a common data template to govern data submission
  - Participants will upload an appropriate quantity and quality of data to MatDB and provide appropriate access
  - Identify objectives associated with data applications of common interest
- Long-Term Plan
  - Port database outside of MatDB
  - Continue maintenance and development under NEA\CSNI