

# Task 3 – connectivity and communication requirements

*This work package needs a workshop as shown on the workplan  
(pre-reading slide 3)*

# Communications, measurement & validation

- The goal is to have common “interoperable” systems that can be used by all parties in the flexibility service market
- The FlexForum goal is to define the practical things we need to transact flexibility
  - That we can use now
  - That can be built on for the future
- Like the product definitions we have done, we need communication, measurement and validation definitions to be common
- The communications is “who, when, what, where and prove it”

# Common terminology and definitions

- **Pre-Procurement** (Flexibility User)
  - Even with a future of “*dynamic flexibility*” we still need flexibility services to “*register their interest*” and flexibility users to “*define a potential need*”
  - This means common definitions of things like locations – GXP, Substation, Feeder, ICP?
- **Procurement** (Flexibility User)
  - The selected “*standard mechanism*” to communicate, measure and validate
- **Pre-operation** (Flexibility Provider)
  - Pre-setting the common services (Programs, locations, amounts) in preparation for the “signal”
- **Operation** (Flexibility Provider)
  - Actioning, measurement, validation

# What is best practice?

- Right now
  - Interoperable nationally
- Going forward
  - 'fully' automated
  - Scalable
  - Secure
  - Reliable
  - Interoperable internationally
  - Certified
- This allows a comms journey that's backwards compatible

# Roadmap

- Manual
  - email, text, phone call to activate predefined flexibility services  
*e.g. Transpower on 9 Aug 2021*
- Integration to in-house systems
  - Simple commands generated by inhouse systems  
*e.g. EDB demand management system activating a ripple system to send a DRED\* signal (0,1,2,3)*
- Interoperable (international) open standards
  - Certified, Secure, Interoperable, scalable
  - EECA/EEA DR open Standards project

**TRANSPOWER** **GEN**

### Grid Emergency Notice

To: GEN NZ Participants  
Sent: 17-aug-2021 16:23  
Ref: 4038210476

From: The System Operator  
Telephone: 0800 488 500  
Email: NMDData@transpower.co.nz

Revision of:

**Cause:** Insufficient Generation offers North Island  
**Region or GXP affected:** North Island  
**Starting:** 17-aug-2021 17:00  
**Ending:** 17-aug-2021 19:30

Transpower as System Operator advises there are insufficient generation and reserve offers and transmission capacity to meet demand and provide for N-1 security for a contingent event. Please refer also to Customer Advice Notice No: 4038247818 regarding unavailability of HVDC Pole 2. The level of instantaneous reserves being scheduled may or will be reduced.

**Consequences on the power system:**  
Risk of insufficient energy offers in the North Island to meet demand plus instantaneous reserve requirements.

**Participants are Requested to:**  
Increase Energy Offers  
Increase Instantaneous Reserve Offers  
Decrease demand

**At:**  
North Island  
North Island  
North Island

- Sample attributes (subset)
  - Flexibility Event identifier
  - Start time, duration, ramp-up, ramp down
  - Type of instruction (based on Event type) - Load up/down (direct/relative), Simple DRED's type (0,1,2,3), Price at specific time intervals – (Retailer providing flexibility services)
  - Location - GXP, substation, feeder, ICP, geographic location (all preset as part of “pre-procurement”)
  - Target resources - Flexibility service provider (or groups of), individual
  - Response
  - Reporting (measurement & validation)

\*DRED – Demand Response Enabled Device