

Milestone report: **CM1** (commercial milestone 1)

Author: Lasse Svenningsen, EMD International A/S (ls@emd.dk)
Review: René Slot, EMD International A/S (rms@emd.dk)
Date and version: 2020.06.17 (v1.0)
Work Package: WP 4 – 'Demonstration and commercial exploitation'
Milestone name: CM1 – 'Interview 3rd parties to identify needs of the industry'
Milestone status: Completed

Milestone description

Interview of 3rd parties to identify details of the needs within prospecting and decision aid of the industry.

Activities and tasks completed

The following interview meetings have been held using MS Teams each of 1.5h duration with a presentation of the general project setup and focus on the priorities for WP4.

- **Meeting with Nordex on 15/6-2020, 14-15:30**
Nordex: Dirk (Loads), Jörg (Loads), Simon (Loads/Sales-support), Zachary (Wind&Site), Ingo (Wind&Site)
EMD: Lasse, René
- **Meeting with INNOGY/RWE on 16/6-2020, 13-14:30**
INNOGY/RWE: Holger (Offshore), Wolfgang (Wind&Site/lifetime), Daniel (Wind&Site/lifetime), Dirk (Tech, due diligence), Per (Wind&Site/lifetime), Sergio (Wind&Site/lifetime)
EMD: Lasse, René

Deliverables and outcomes

Nordex:

- Very positive about the idea of a global atlas of site parameters, particularly TI, and also the aspect of uncertainties (although how to use it triggered some discussion...)
- At first, only reluctantly enthusiastic about the idea of pre-run loads for in-house specific turbine models, but enthusiasm increased throughout the interview
- Particularly there is concerns about wake assumptions and missing curtailment strategies
- Little interested in park design aid for spacing from margin of loads, probably as they do not design the layouts
- Little or no knowledge of windPROSPECTING, which made EMD's proposals appear more 'handwaving'
- Would like to see an example in windPROSPECTING to get further inspired
- Security is high priority to them, and the results are intended for in-house use only
- But open to possible co-setup at a later stage if INNOGY has good specific ideas
- Tentative priorities for load simulations and design class identification runs:
 1. EMD-commercial dataset and GASP-public dataset (for comparison) for European country using 2 Nordex specific models
 2. Turkey, if possible comparison as above
 3. US
 4. Brazil

INNOGY/RWE:

- Very positive about the idea of a global atlas of site parameters
- Again, how to use uncertainties triggered some discussion
- Had questions about how interpolation in GASP grid of variables would be done
- And request for user truncation limits on site variables e.g. limit wind shears to 0.3
- Little or no knowledge of windPROSPECTING, which made EMD's proposals somewhat 'handwaving'
- Mostly interested in 'on-demand' calcs/analysis less so in the pre-calculated layers
- Flexible Class S options is often required for their assessments, probably explains the above
- Lifetime came up multiple times and is an important parameter for them
- Particularly that suitability needs to be more flexible than just relative to 20y design life
- Interested in having API access to the GASP data and related functionality
- Mentioned multiple times their in-house 'turbine pre-selection tool' with WTG specs.
 1. An efficient interaction/interface towards the data in this tool is needed
 2. Either an input per case setup, or a all at once definition
- Would like to see a first example in windPROSPECTING to get further inspired
- Tentative priorities for functionality:
 1. Recommend minimum spacing (and if suitable at all)
 2. Quick Lifetime calculation
 3. API access to GASP data
 4. Perhaps 'in-house GASP' calibrated data sets