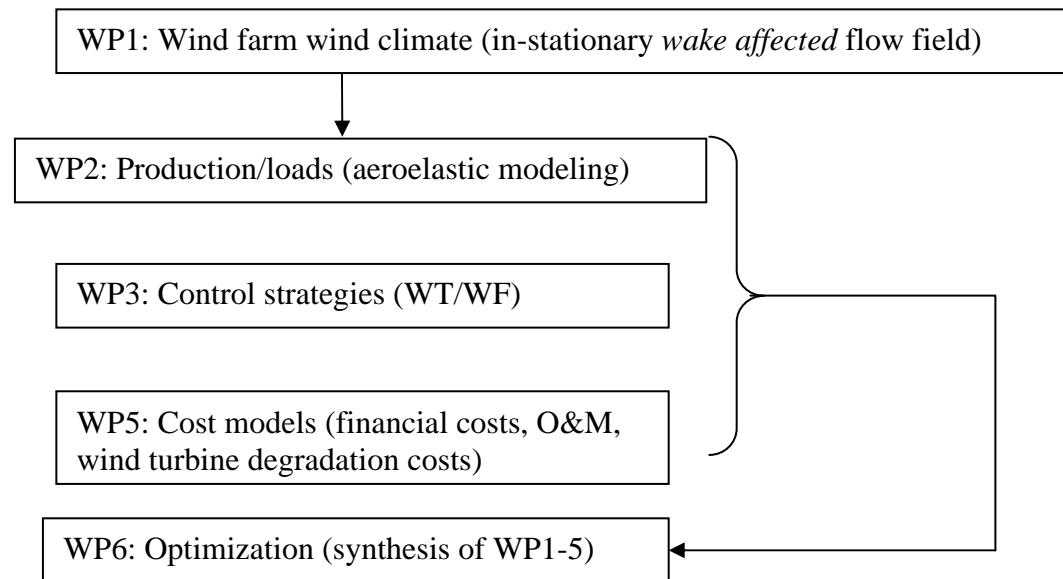


TOPFARM – vision and philosophy

- **Vision:** A “complete” wind farm topology optimization taking into account
 - *Loading-* and *production* aspects in a realistic and coherent framework
 - Financial costs (foundation, grid infrastructure, ...)... and subjected to various constraints (area, spacing,...)
- **Philosophy:** The optimal wind farm layout reflects the *optimal economical performance* as seen over the lifetime of the wind farm

TOPFARM platform



TOPFARM status

- DWM implemented and verified/calibrated (i.e. flow field; structural response);
- Simple cost models developed and implemented (i.e. financial costs; O&M costs; costs of component (fatigue) degradation);
- Wind farm controllers and wind turbine controllers for wake operation developed;
- Topology optimization platform running in a Matlab environment, but uses HAWTOPT as optimization “engine” (i.e. Sequential Linear Programming and Simple Genetic Algorithm);
- Selected constraints may be imposed (area constraint, max. allowable loading, power quality,);
- Parallelized code;
- Control part not yet an integrated part of the optimization.