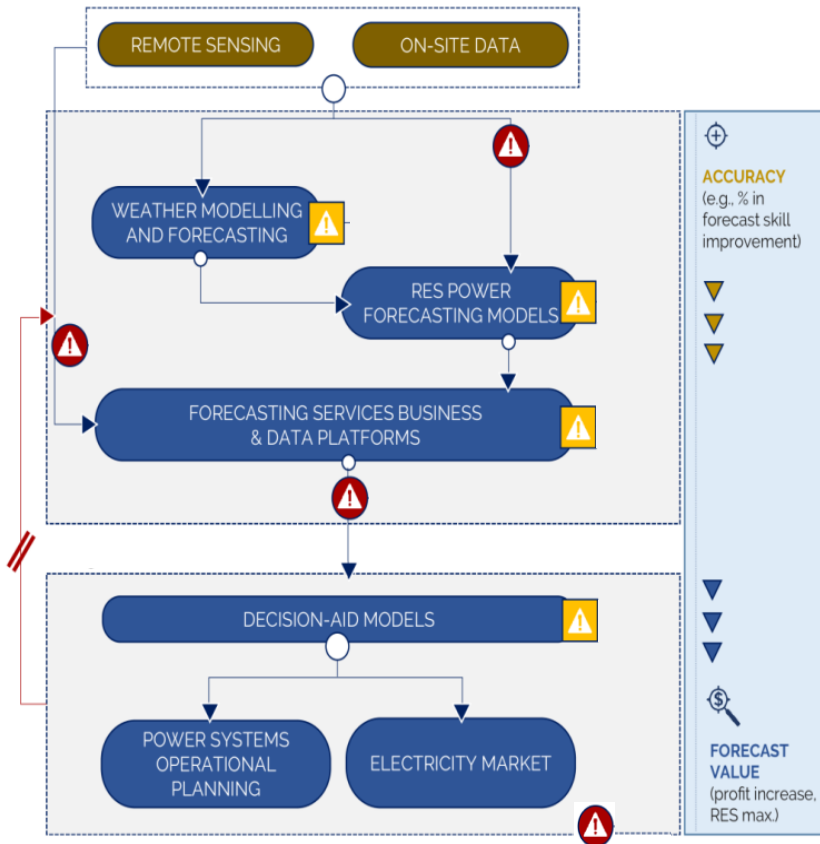


## Overarching goal:

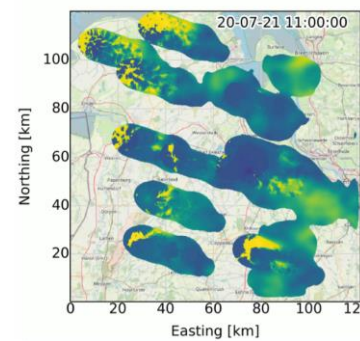
Achieve outstanding improvement in RES predictability through a **holistic approach**, that covers the **whole model and value chain related to RES forecasting**



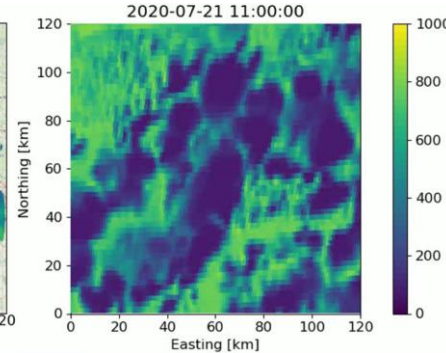
## Focus on some of the research directions:

- ⇒ Combine weather data sources for improved nowcasting & forecasting
- ⇒ NWP models dedicated to Renewable Energy Sources (RES)
  - ⇒ Higher temporal resolution outputs
  - ⇒ Additional relevant variables for RES (i.e. cloud optical thickness, spectral distribution of radiation)
  - ⇒ Evaluation & calibration of NWP models accounting for RES scores
- ⇒ Large Eddy Simulation (LES) for ultra-high NWP resolutions & data assimilation
- ⇒ Seamless NWP ensembles and RES production forecasts

Network of 23 cameras (DLR)



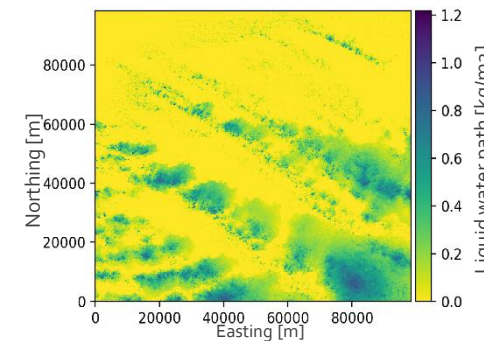
Satellite images



Irradiance maps

Data assimilation

LES simulation



LES forecasted liquid water path (total amount of cloud water in the atmospheric column)



## Smart4RES webinar series

#1 June 2020	#2 Dec 2020	#3 March & April 2021	#4 June 2021	#5 September 2021	#6 October 2021
Replay on <a href="#">Youtube</a>	Replay on <a href="#">Youtube</a>				
Introduction to Smart4RES - Data science for renewable energy prediction	Extracting value from data sharing for RES forecasting	Advanced weather forecasting for RES applications 3.1 NWP & High-resolution models 3.2 Data observations & assimilation	Optimising participation of RES generation in electricity markets: new opportunities and the role of forecasting	Optimizing the value of storage in power systems and electricity markets	Modelling tools for integrating RES forecasting in electrical grids

## Stay tuned!

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