



Innogrid 2023 MAM

GridCause, a Moonshot

2023 | William Van den Broeck

Elia group wants to resolve overhead line incidents in real time

Incident causes

STORM



CRANE ON THE LINE



FLOODING



GALLOPING



RUST



BIRDS & ANIMALS

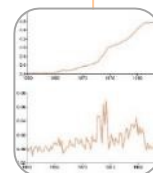
Why?

- Remove constraints in the field
- Shorten decision making time post incident
- Utilize the grid to its limit

Goal

- Prove feasibility of AI and new technologies for incident identification
- Quick impact assessment of incidents, ex. for emergency response
- At low cost
- As near real time as possible

1



Existing Data

Fault Recorders, Assets information database

Weather Data, Public Works DB, Bird Risk Maps

Classification Algorithm

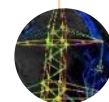
Comtrade Files

Signal Processing

2



Drone in a box



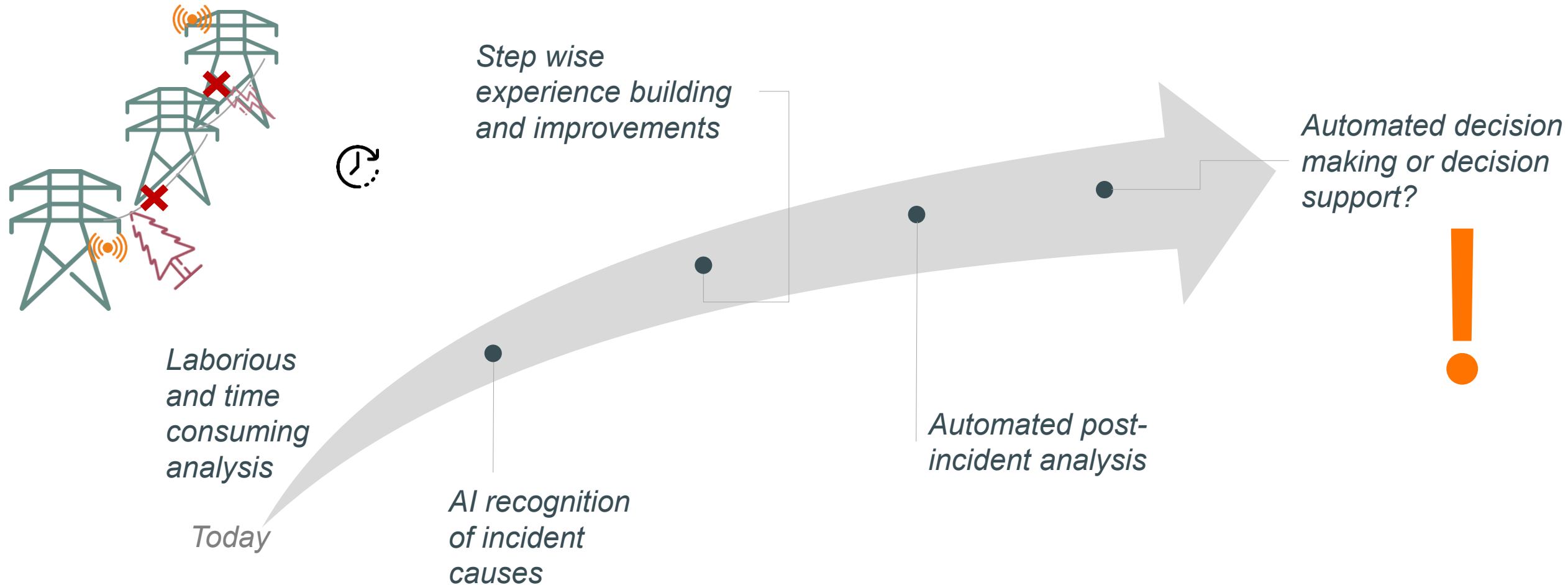
Smart Camera



Satellite

New Technologies

The digital grid of the future will be able to respond in real time towards any disturbances



Key take away is that the digital road has to be paved before we can walk it

A prediction algorithm of 85% accuracy

Real cause

Animal outside building	0.89	0.03	0	0.07	0
Crane or nacelle	0.16	0.59	0	0.10	0.16
Weather_Wind	0.20	0	0.60	0.02	0.18
Weather_badweather	0.18	0.01	0	0.75	0.06
Weather_galloping	0	0	0	0	1
	Animal outside building	Crane or nacelle	Weather_Wind	Weather_badweather	Weather_galloping



Predicted cause

prompts discussion on decision making

A clear real time picture of the line



CITYMESH
the art of connectivity

DRONE
DIVISION
IS IT A PLANE GROUP

... prompts discussion on decision making

Thank you

