IOT MONITORING SOLUTIONS

for electricity networks maintenance

DIGITA

Pressures for change in the electricity networks business on coming years

Increasing regulatory requirements for maintenance

Minimizing the electricity delivery outages

Climate change increasing extreme weather conditions and stress on infrastructure

More frequent and intensive rains, storms and conditions favoring the accumulation of ice on overhead lines

Increasing market expectations for actions to manage sustainability and carbon footprint

Minimizing the carbon footprint of the electricity network maintenance operations

IOT MONITORING SOLUTIONS

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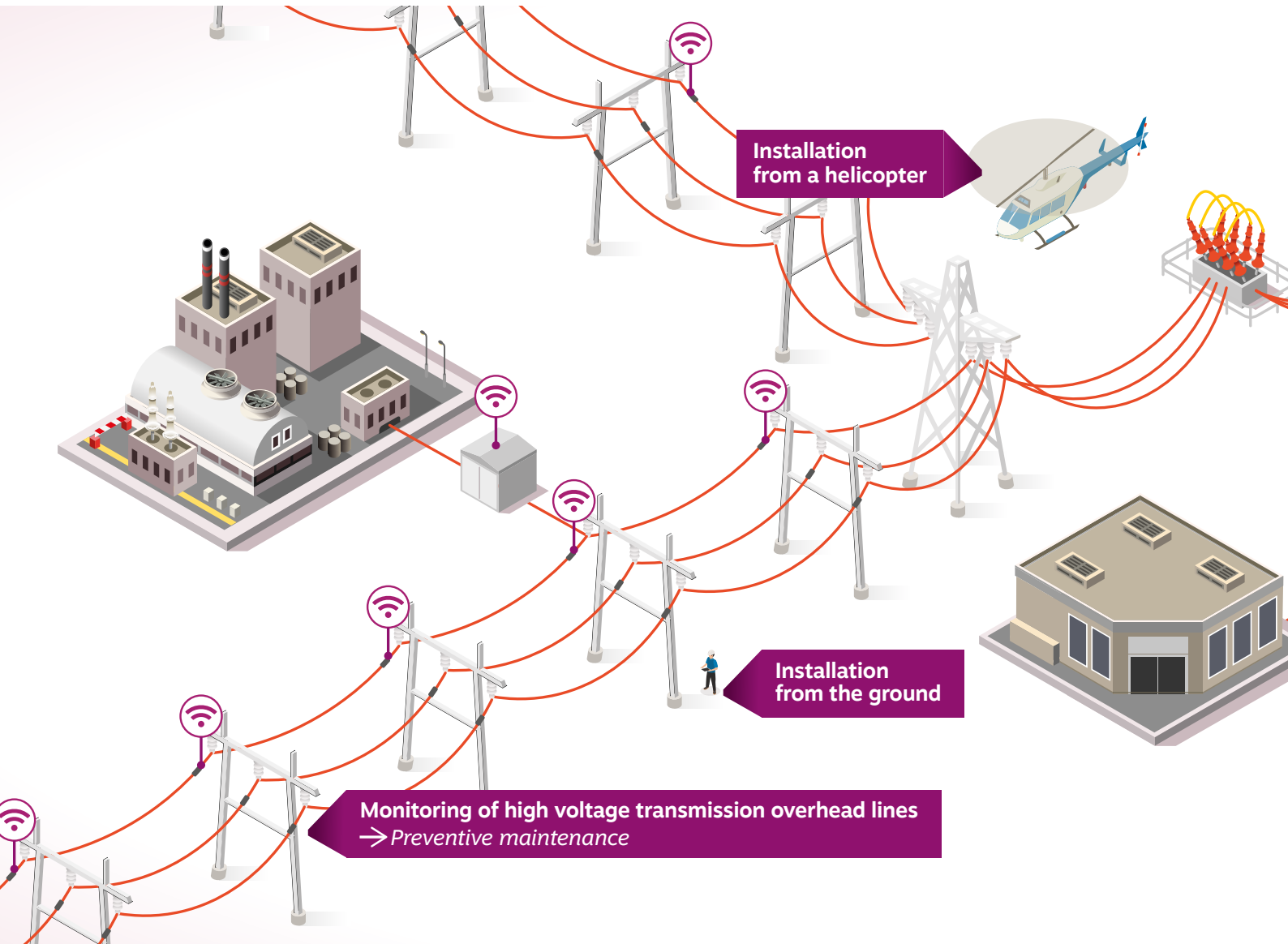
IOT SOLUTIONS FOR MONITORING THE ELECTRICITY TRANSMISSION AND DISTRIBUTION NETWORKS

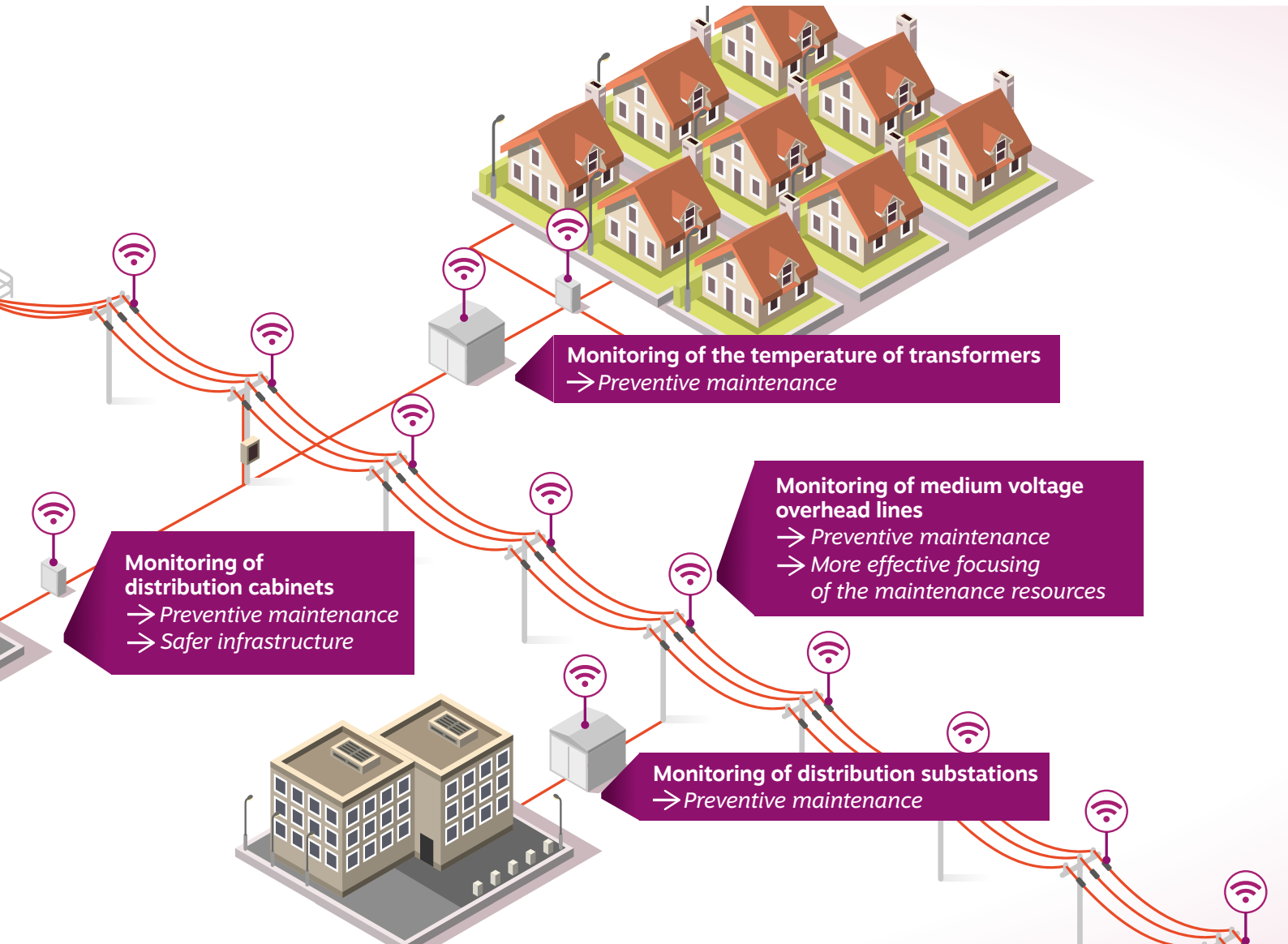


MORE PREVENTIVE MAINTENANCE, QUICKER AND MORE ACCURATE RESPONSIVENESS

- Slowly developing faults can be detected before they cause severe problems
- Sudden faults can be detected and located quickly, enabling more effective repairs
- Increased visibility to the lifecycle of network's different components

EFFICIENT CONDITION MONITORING OF THE ELECTRICITY DISTRIBUTION NETWORK

- Overhead lines monitoring
- Ice load accumulation on overhead lines
- Tree falling on overhead line
- Inspection of coated overhead lines after storms
- Condition monitoring of distribution cabinets
- Condition monitoring of transforming substations
- Monitoring of switch disconnectors
- Monitoring of the inclination of poles and towers



OVERHEAD LINES MONITORING

ICE LOAD ACCUMULATION ON OVERHEAD LINES

Snow and ice loads accumulating on overhead lines is a threat which has traditionally been laborious and difficult to detect. Overhead lines are being regularly inspected either from the ground or by helicopter – taking lot of resources and increasing the carbon footprint of the maintenance operations.

Even with the regular inspections, problems may not be detected early enough before causing damage to the overhead lines or pylons. The increasing frequency of extreme weather conditions causes growing challenges for the ice load prevention.

DIGITA'S SOLUTION AND VALUE PROPOSAL

IoT sensors working independently on the overhead lines provide information on the amount of the ice load proactively and in real time. This enables preventively reacting to slowly developing problems before they become a threat for the electricity distribution.

- Preventive maintenance
- Faster recovery from faults
- More cost-effective maintenance operations
- Decreasing the carbon footprint

TREE FALLING ON OVERHEAD LINE

The increasingly frequent storms, together with tightening regulative demands for network uptime, are putting a growing pressure on the cost of electricity distribution infrastructure maintenance operations.

After a storm, quick and efficient focusing of the maintenance workforce and resources is important,in order to minimize the disturbances for electricity distribution.

DIGITA'S SOLUTION AND VALUE PROPOSAL

IoT sensors working independently on the overhead lines enable detecting in real time, remotely and accurately where a tree has fallen on the overhead line.

- More cost-effective maintenance operations
- Decreasing the carbon footprint
- Faster recovery from faults

INSPECTION OF COATED OVERHEAD LINES AFTER STORMS

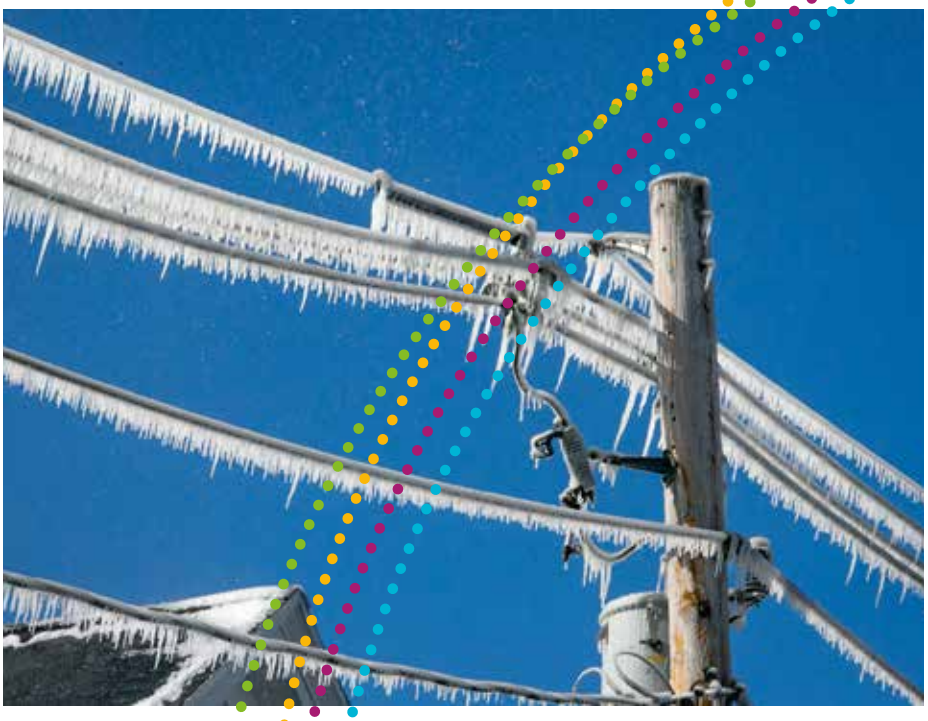
For safety reasons, inspecting the coated overhead lines after storms is widely recommended, either from the ground or by air from helicopter.

These repeated inspections use lot of resources and increase the carbon footprint. The increasing extreme weather conditions are leading to growing pressure on the use of resource and cost of the inspections.

DIGITA'S SOLUTION AND VALUE PROPOSAL

IoT sensors working independently on the overhead lines provide accurate and real-time information the location of trees fallen on the lines. This enables focusing the repair work quickly and efficiently.

- Faster recovery from faults: right resources at right time and in right place.
- More cost-effective maintenance operations.
- Increasing the safety of the maintenance workforce and the general public
- Decreasing the carbon footprint



DIGITA IOT SOLUTIONS WITH EXPERTISE AND EXPERIENCE

100 YEARS OF EXPERIENCE IN WIRELESS NETWORKS

NATIONWIDE IOT NETWORK & MAINTENANCE ORGANISATION

DIGITA´S COMMUNICATIONS NETWORKS IN A KEY ROLE IN ENSURING SECURITY OF SUPPLY IN FINLAND

24/7 NETWORK MONITORING

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