

## Study Committee B2

Overhead lines

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# OVERHEAD POWER LINE TOWERS SPECIALLY DESIGNED TO BE LIFTED BY HELICOPTER

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## Motivation

- Bring a high level of safety for the linemen when lifting towers
- Optimize the construction of OHL in both a time and cost saving manner
- Mitigate the footprint on environment.

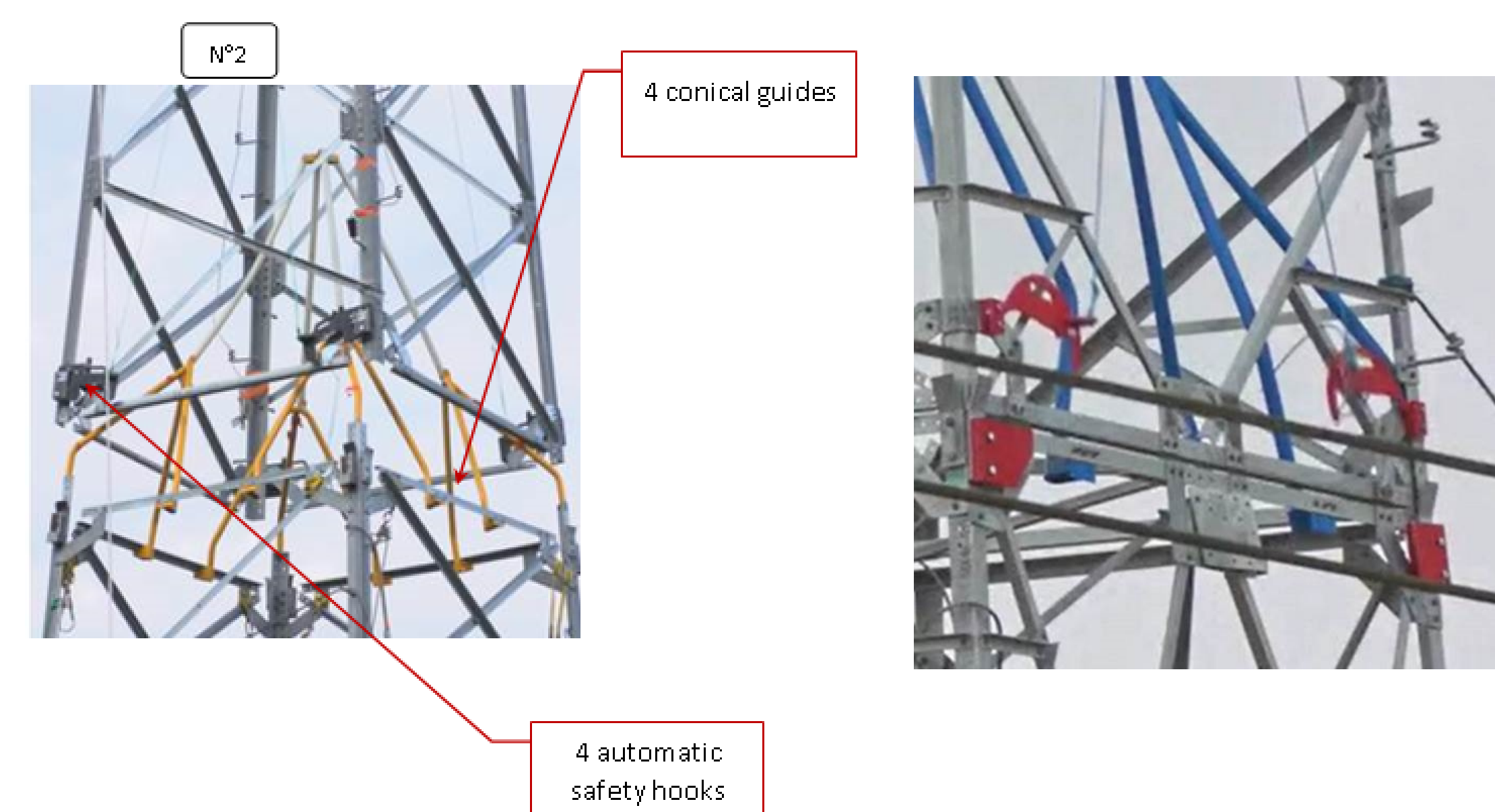
## Method/Approach

- The tracks of studies :
  - Engineering methods and organization to integrate the use of helicopter at the very beginning of a project (both technical, safety and procurement aspects).
  - The new methods and procedures for power line construction aided by helicopter (Approved by Aeronautical Authorities ).



## Experimental setup & test results

- Towers designed as “H” (Lifted by Helicopter)



## Discussion

- Dedicated platforms where several towers are assembled in safe conditions



- Lifting phase : no linemen under the flying load



## Objects of investigation

- Safety
- Minimize Construction time and Cost
- Reduce footprint on environment

## Conclusion

- Since 2011 RTE -AIRTELIS has tested this method which is improved more and more every year.
- RTE and AIRTELIS have definitively adopted the helicopter for power line construction and maintenance.



## **OVERHEAD POWER LINE TOWERS SPECIALLY DESIGNED TO BE LIFTED BY HELICOPTER**

### **continued**

#### **Performance**

- 12 to 15 towers can be lifted per week with helicopter
- Twice faster than a conventional method

#### **Footprint on ground**

- Reduction from 50% to 70% of tracks surfaces

#### **Fauna & Flora**

- Reduction of nuisance for fauna and flora due to low occupational time and thanks to the reduction of surfaces of work.

#### **Footprint on forest**

- Reduction of 50 to 70 % of deforestation needs.

#### **Network availability**

- The use of helicopter reduces the duration of an outage when needed. So, the quality of service of the network is increased.

#### **Costs saving**

- The balance between the use of helicopter and traditional method is positive as far as we lift more than 15 pylons with helicopter methods.

#### **CO<sup>2</sup>**

- 1 hour of helicopter CO<sup>2</sup> = 60 m of trackway CO<sup>2</sup> (150m<sup>2</sup>)
- As far as we save 900 m length (2250m<sup>2</sup>) of temporary tracks the use of helicopter becomes positive

#### **Increase the Stakeholders acceptance**

- By reducing the impact on cultivated fields
- By reducing the pace of work

#### **Conclusion**

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