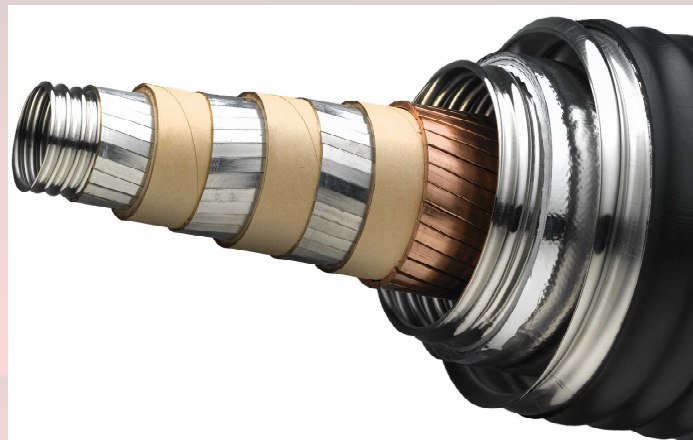


# Challenges towards HTS cable commercialization

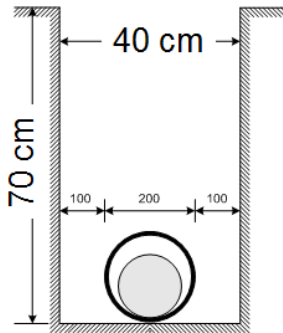


IEA Meeting – Kawasaki – July 5, 2017

# HTS cable commercialization

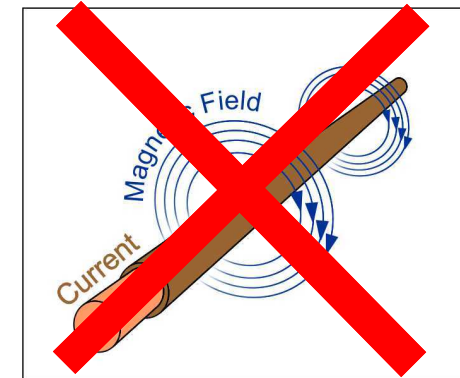
## Main drivers

- High currents
- Very narrow RoW



## Other drivers

- No EMF
- No temperature impact



**3 stages**

**Communication**

**Acceptance**

**Attractiveness**

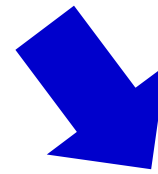
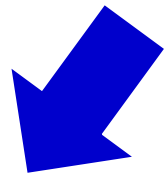
## Objective: Be aware of potential HTS cable projects

- Most of HTS cables only make sense if the local grid is taken into account, not just a link from A to B
- Strong effort needed to makes potential customers thinking about HTS solutions when they need to resolve a specific problem
- Need to dissociate from superconductors the image of laboratory materials or devices

# Attractiveness

**Objective: Demonstrate HTS system economic viability**

**Positive balance between**



## **HTS system cost**

- HTS tapes
- Cryogenic envelope
- Joints and terminations
- Refrigeration system
- ...

## **Compensating savings**

- Substation equipment (transformers, switchgears,...)
- Civil works
- Real estate
- Time and risks associated with permitting, acquisition of RoWs,...
- ...

# Acceptance

**Objective: Get HTS technology acceptance from utilities**

## Key topics

- Technology reliability (more projects needed !)
- Reparability and time to get back in operation
- Refrigeration system
- Liquid nitrogen storage
- Maintenance
- Tests standardization



## Joint effort needed !

- A joint effort from all stakeholders is needed to speed up the commercialization of HTS
- Drivers are high currents, very narrow RoW and environmental constraints
- Time is running: we need to transform in a reasonable time frame HTS cables into a profitable business
- Organizations like IEA can definitely help



***Thank you for your  
attention !***