



Increasing Waste of Water: Breaking of Pipes in the Center of Paraná.

National Technological University, Paraná
Regional School, Civil Engineering Department,
Inglés I

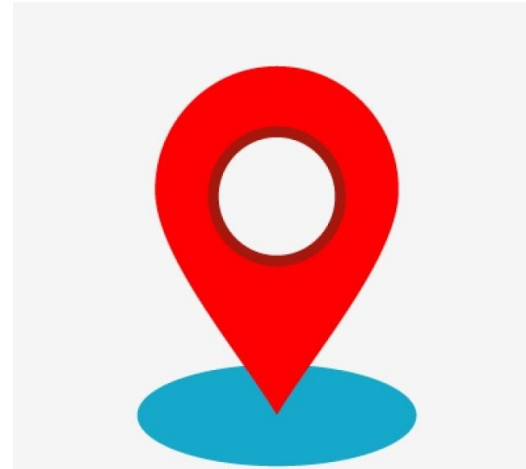
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Group introduction



We are Delfina
Eichhorn, Marcos
Sulmaister and
Micaela Weber.



We live in Paraná



We are Civil
Engineering
students



The three of us are
21 years old

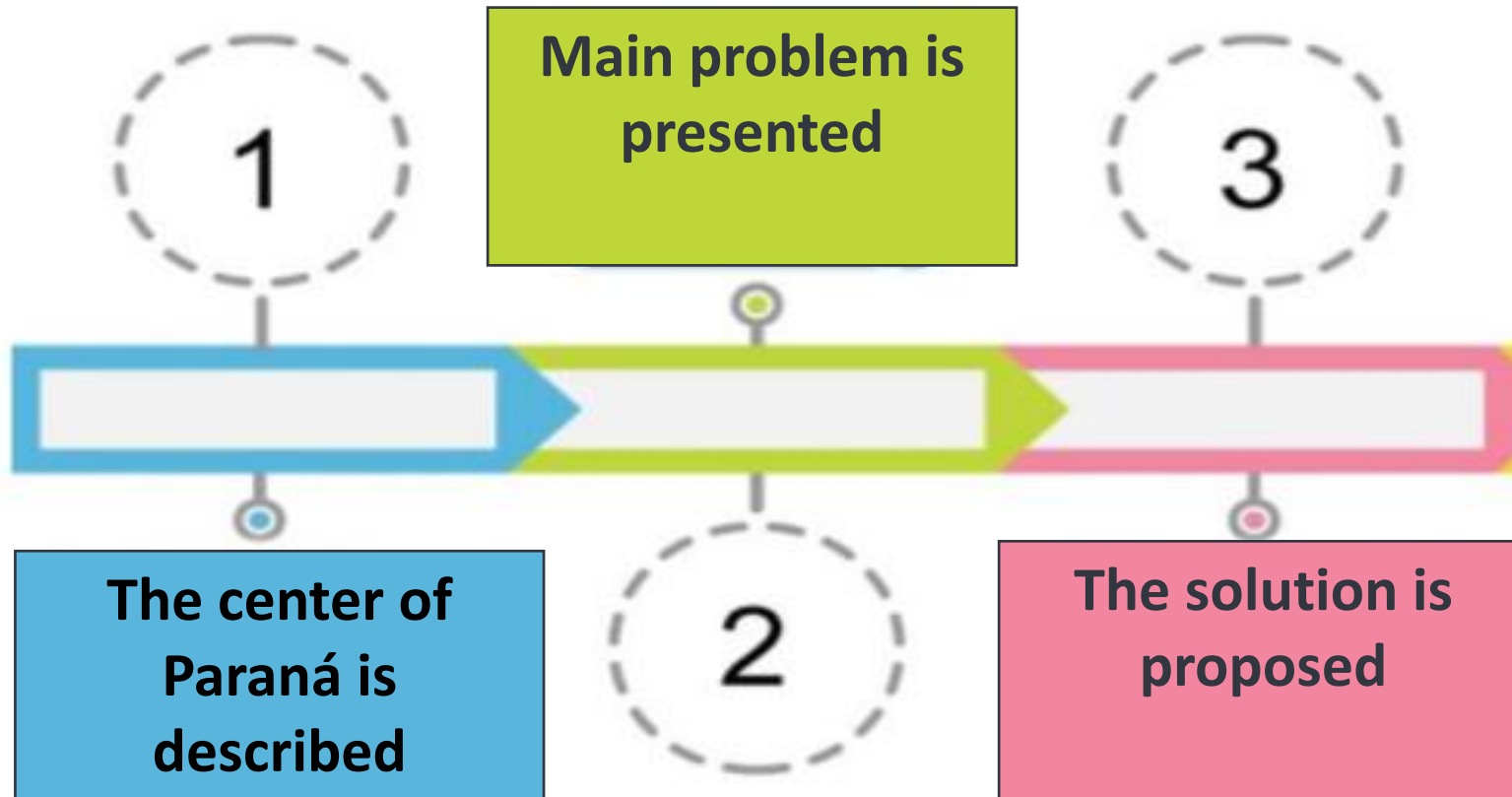
Introduction of the problem: Waste of water due to the breaking of pipes in Paraná



The problem: Breaking of pipes in the city center

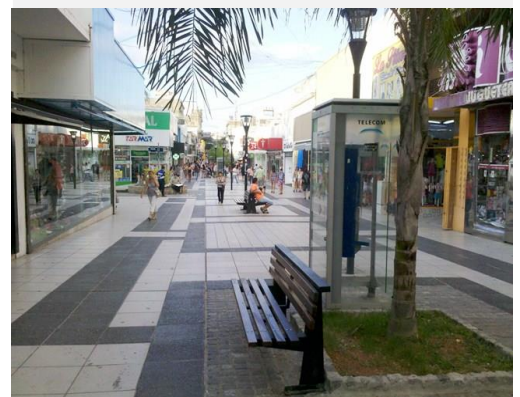


Map of the presentation.





Description of the Context



The problem



Breaking of pipes in the center of Paraná



Amount of water wasted



A lot of water wasted through broken pipes.



Non-renewable resource

Pipelines located in the center of the city of Paraná

Pipeline description:

Material: Thermosetting fiberglass-reinforced plastic (FRP).

Dimension: 900 mm.



Potholes in the street of a city

Consequences of potholes in the street:

Potholes:

Make traffic difficult

Waste approximately 50% of drinking water

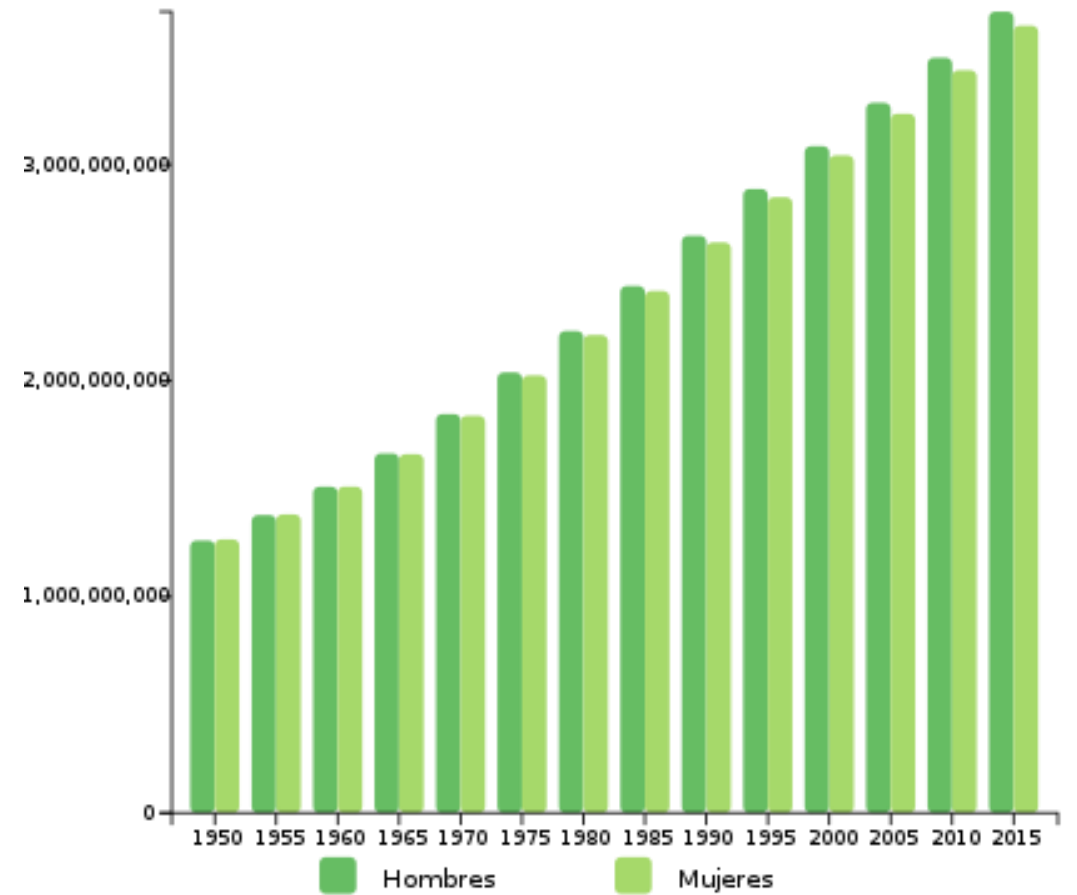
Can damage the cars.



Causes of the problem



Old pipes



Population growth

Consequences of the breaking of pipes

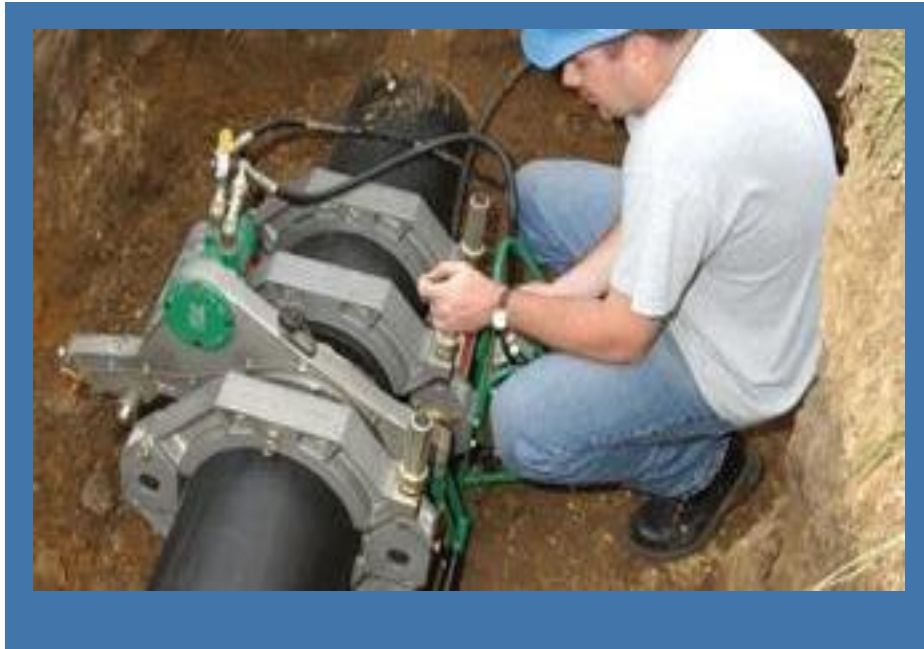
- Waste of drinking water.



- Potholes in the pavement



Solution to the problem



- Replacing old pipes with hot melt PAD pipes

Advantages and disadvantages of the new pipes



Advantages of laying the new hot melt PAD pipes

- They are not easily damaged.
- Its repair is dynamic and fast.
- Traffic is not affected to repair them.

Disadvantages of laying the new hot melt PAD pipes:

- All pipes need to be changed.
- It has a high cost to change the pipes.
- Supply must be cut off to change the pipes.

Conclusion



The problem is the increase in water waste in Paraná.



The pipes in the downtown area are old.



The solution proposed is to make changes in the pipes.