

# TACTILE ASTRONOMY

# A PORTUGUESE CASE STUDY

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*Portugal*



# THE IMPORTANCE OF ASTRONOMY

*In outreach initiatives*

*In school science curricula*



# ACTIVITIES

*Adapted to Portuguese  
for visually  
impaired audiences*



>> Planetarium show adaptation “The sky in your hands”.





# ACTIVITIES

*Adapted to Portuguese  
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FROM **EARTH** TO THE *Universe*

>> Exhibition of tactile material: images and a  
3D moon model;



# RESOURCES

>> These images in relief, highlight, through touch, several relevant features present in the different astronomical objects studied.

>> The scientific knowledge is apprehended through the use of a tactile key, complemented with additional information.





# IMPLEMENTATION AND PUBLIC

- >> Planetarium show once a week;
- >> Accompanied visits to the exhibition;
- >> Audiences:
  - regular attendance: non-visually impaired;
  - by special request: groups of visually impaired;
- >> Age range;



# FEEDBACK

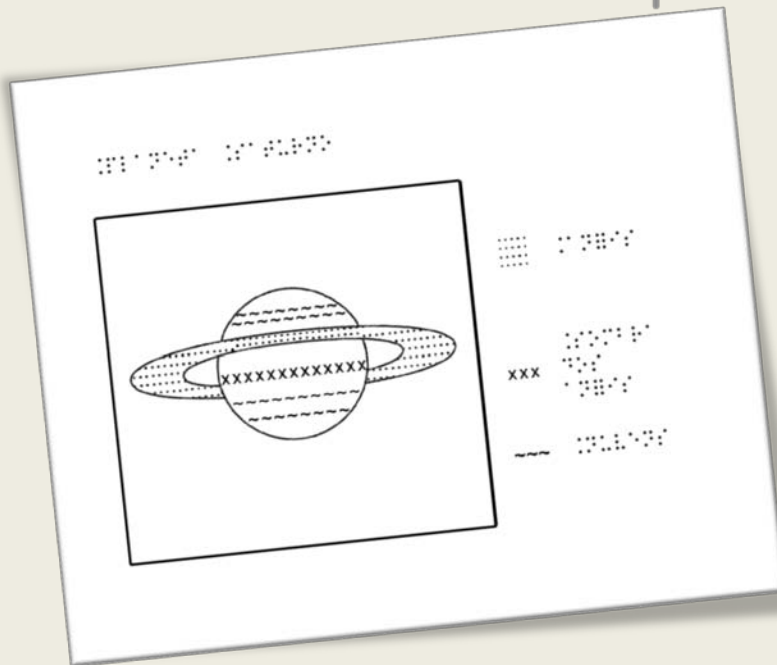
- >> Recollection of past memories;
- >> Sense place in the solar system and the universe;
- >> Touching the moon.

**“Wow... I’m touching the moon...!”**

**“When I could see, I remember...”**

**“I always wondered what they meant by rings...”**

**“A comet... and it has a tail?!”**



# EVALUATION AND CONCLUSIONS

- >> Feedback;
- >> Attendance;
- >> Legacy.

- >> Expensive materials;
- >> Braille reading problems;
- >> Inclusion.



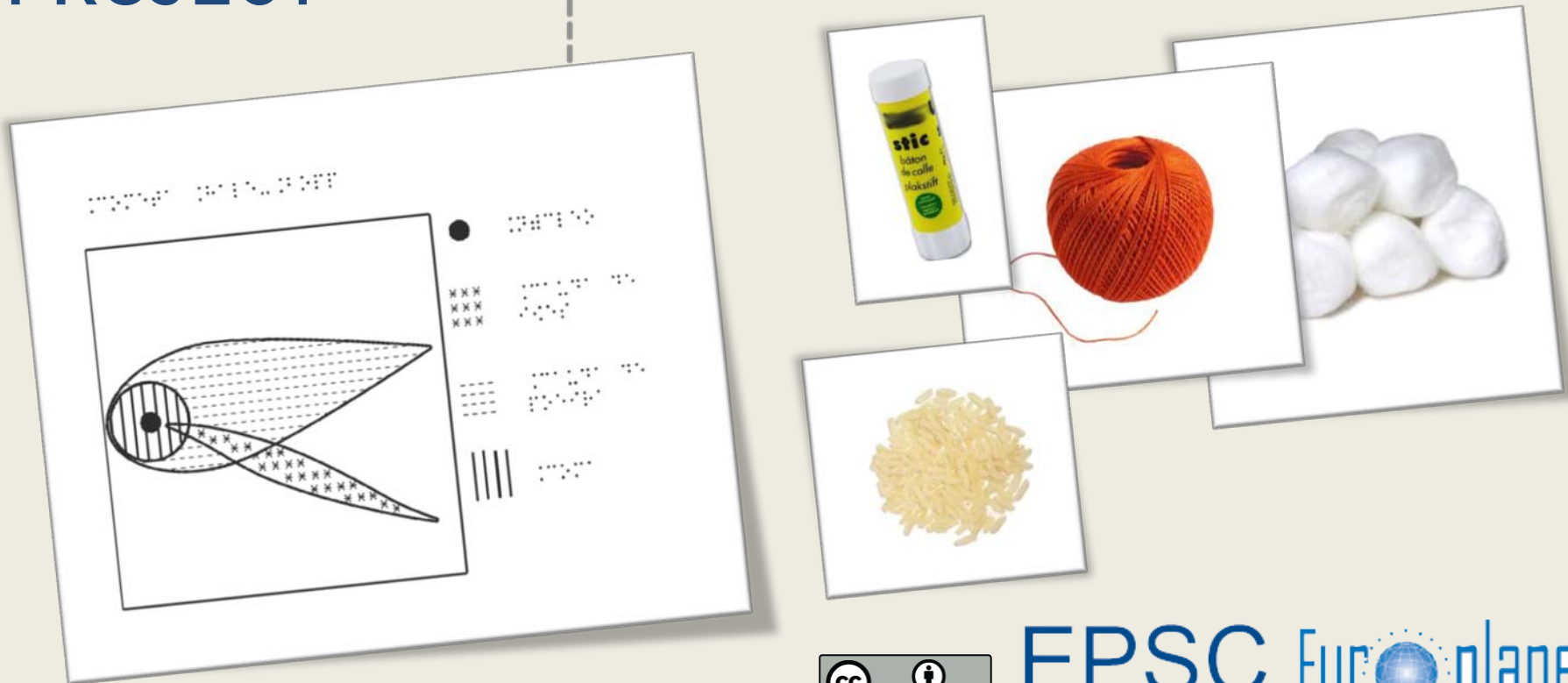


# ONGOING PROJECT

>> Build tactile images using low cost materials;

>> Dynamic interaction between visually impaired students and their non-visually impaired peers;

>> Explain scientific goals, reinforces the knowledge acquisition experience.



# THANK YOU!

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