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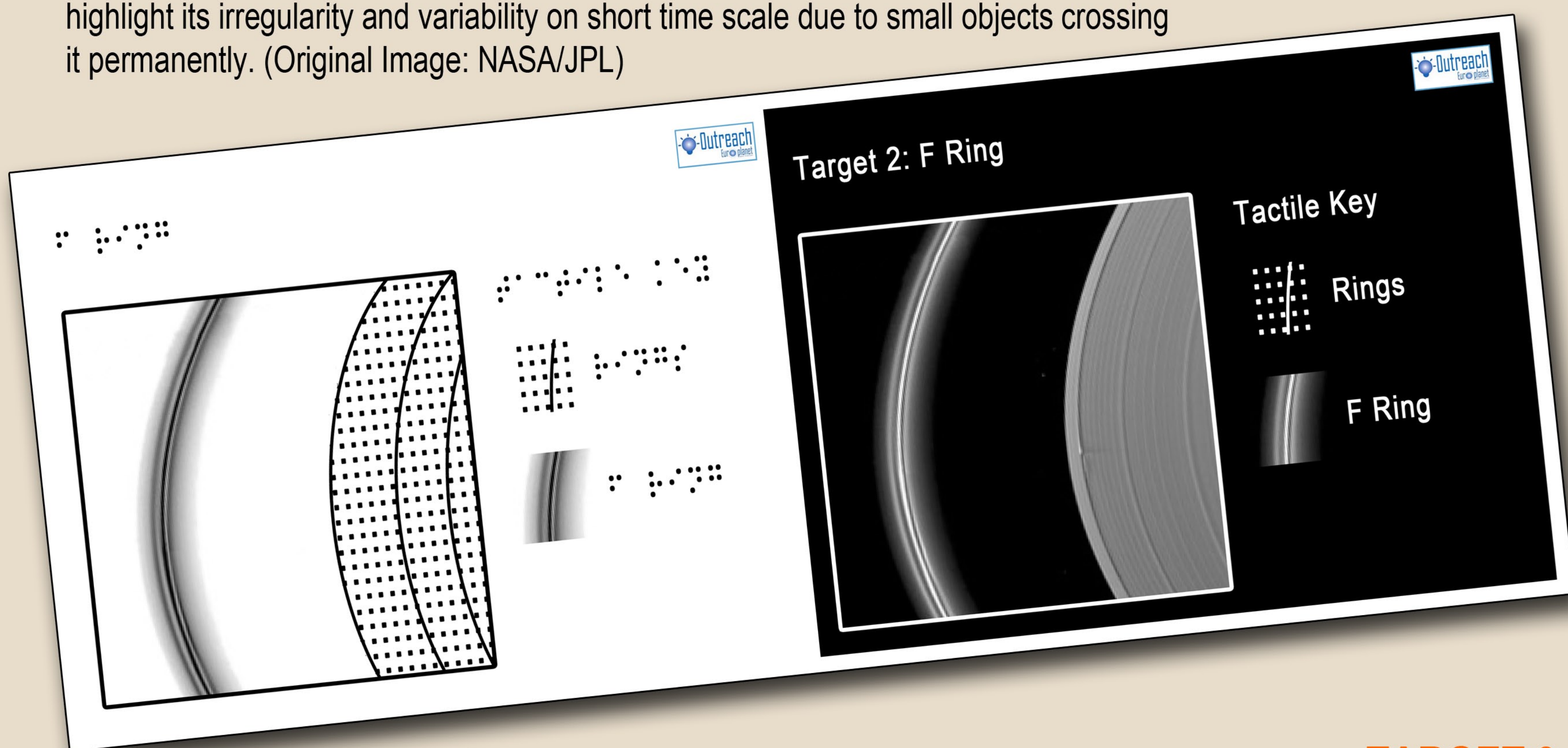
INTRODUCTION

This fall 2012, Cassini spacecraft will image three targets and the challenge is launched to all students: to choose the one target they think will provide the best science and write an essay explaining their reasons. The idea behind “Cassini Scientist for a Day: a tactile experience” is to transform each of these images into schematic tactile images, highlighting relevant features apprehended through a tactile key.

This project aims to reach more students into participate in this international competition and to engage them in a quest to expand their knowledge in the amazing Cassini discoveries and the wonders of Saturn and its moons. As the winning essays will be published on the Cassini website and contest winners invited to participate in a dedicated teleconference with Cassini scientists from NASA’s Jet Propulsion Laboratory, this initiative presents a great chance to all visually impaired students and teachers to participate in this exciting experience.

TARGET 2 - THE F-RING

The tactile highlights were made in order to stress the idea that although at first glance Saturn looks like it is surrounded by one giant ring, a closer inspection reveals that it is actually made up of a number of rings of different sizes. The F ring being one of the most active, this was stressed by adding different texture to the different set of rings perceived in the image. An additional image was developed to highlight its irregularity and variability on short time scale due to small objects crossing it permanently. (Original Image: NASA/JPL)

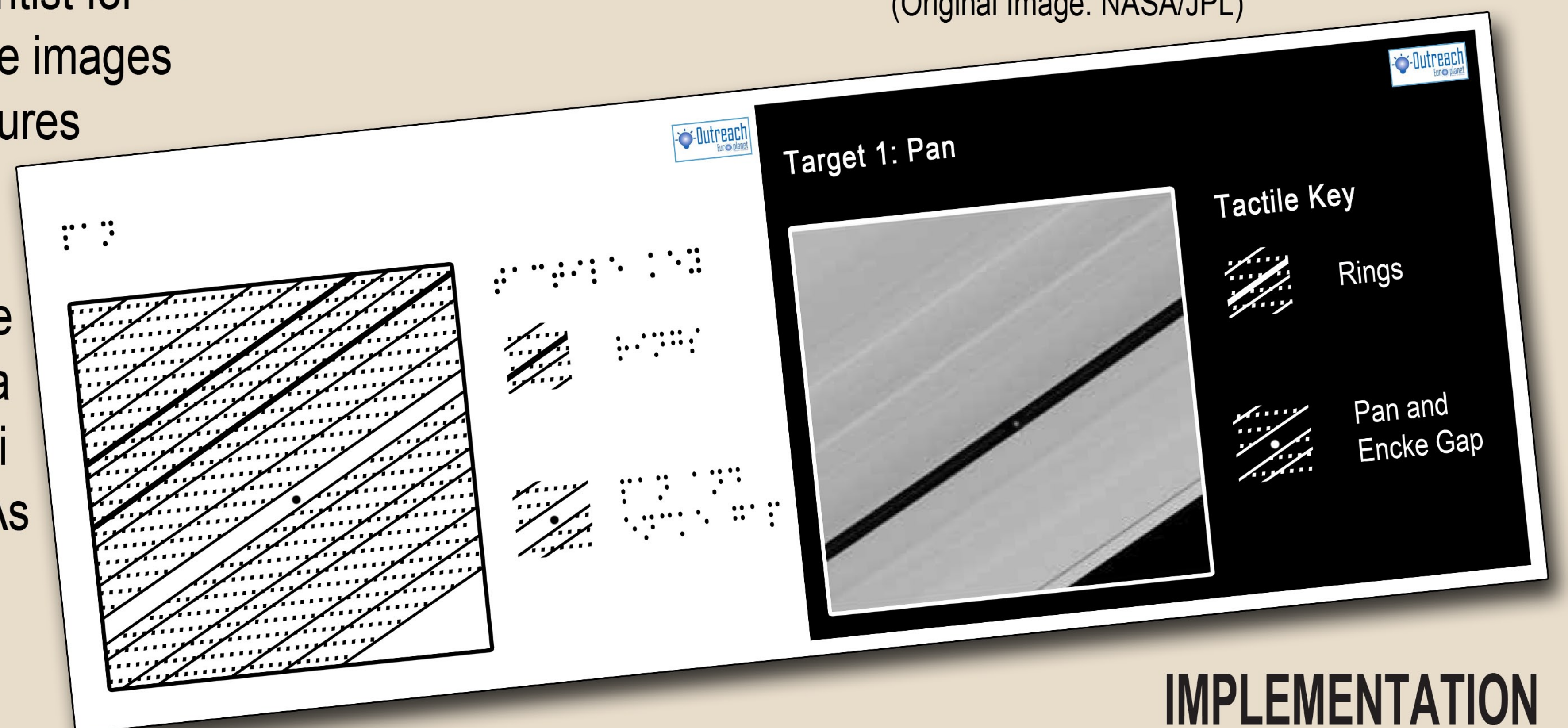


JOIN US

Having the resources ready one must now carefully evaluate the method through different test groups, preferably in different countries, in order to validate and successfully improve the work developed. Although the images are ready, any feedback received is paramount. Here is where you can make a difference! We would like to make a call to all interested in participating in the implementation of this project in their own country. All interested parties will have the images provided in their native languages: just sent the text on your native language translated from the English version and we’ll adapt the images.

TARGET 1 – PAN, THE SHEPHERD MOON

For the shepherd moon Pan, the tactile key chosen to describe the picture was developed in order to highlight the Encke gap that might be missed among the rings. And an additional close up image was also transform in order to stress the rather unusual shape that somewhat resembles a walnut or a flying saucer due to its prominent equatorial ridge. (Original Image: NASA/JPL)

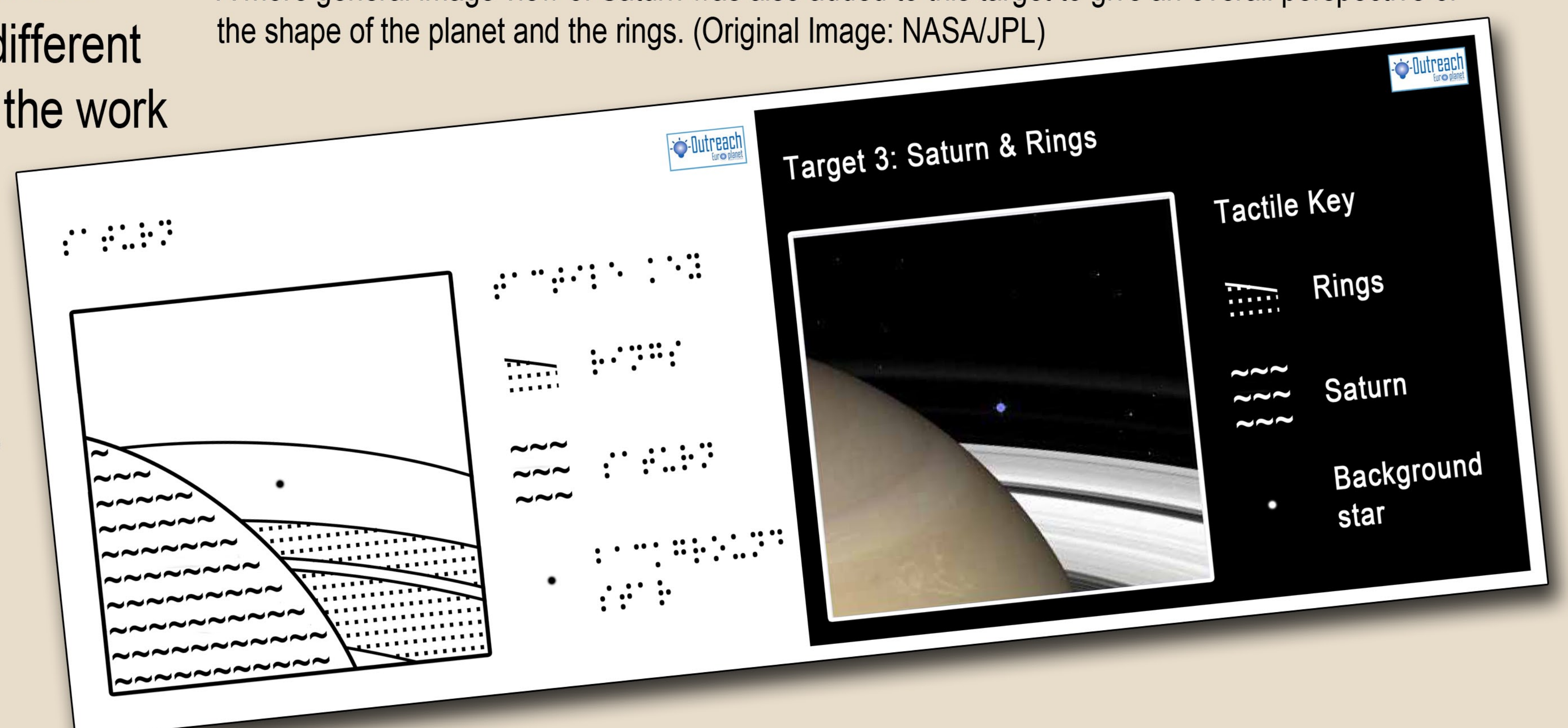


IMPLEMENTATION

The adapted images can be printed in thermal printers that can be found in science centres, associations for the visually impaired or in local schools. However the production costs associated with these printings can be very high and not always affordable to all schools and teachers. A different approach can be implemented to avoid increasing these costs by using available low cost materials. Using the adapted images as a guide, one can associate the different tactile patterns to different materials / textures such as wool, cotton, fabric, etc. In summary, printing the images and gluing different materials on top of each area, and proceeding the same way for the correspondent tactile key, would make this activity much more affordable. These initiatives must be complemented with further information to strengthen the learning experience. However they stand as a good starting point to tackle further astronomical concepts in the classroom, especially a field that lacks resources.

TARGET 3: SATURN

Here we have a close up of Saturn’s surface highlighted by a different texture, with the rings in the right part of the image. A background star is also perceived in the centre of the image potentiating the notion of star occultation to further explore the rings and also the notion of distance and perspective. A more general image view of Saturn was also added to this target to give an overall perspective of the shape of the planet and the rings. (Original Image: NASA/JPL)



(more information on the “CASSINI SCIENTIST FOR A DAY” 2012 essay contest

official webpage in: <http://saturn.jpl.nasa.gov/education/scientistforaday11thedition/>, run by **NASA/JPL** and on **ESA** webpage in: <http://sci.esa.int/science-e/www/object/index.cfm?fobjectid=50772>)