Hands on exercise

# Context

NDT Global inspects oil and gas pipelines looking for **small** defects. It uses custom robots and uses ultrasound technology to detect them. The recorded ultrasounds wave can be processed and represented by a colored image representing the amplitude of the recorded waves. Human analysists look for **shapes** and **colors** to understand, find and grade any potentially dangerous defect.

# Data provided

A custom dataset is provided ("Data for DL hands on exercise" folder). This dataset contains several images extracted from real pipeline inspections from NDT robots. It is composed of:

* labels.csv --> labels of every image.

A screenshot of a computer

Description automatically generated

* images/{image\_id}.png --> images of the **360º** of a pipe/s section

Girth weld -->

<-- Dangerous feature

**A white background with colorful spots

Description automatically generated with medium confidence**

# Problem

We ask you to provide a two head classifier that can predict the presence of girth welds (one head) and **different kinds** of dangerous features (the other head). For simplicity, in this dataset, only one kind of dangerous feature has included (feature = 1) on this dataset.

Also, we are interested in how you arrive to the solution. So,

1. Remember to add comments explaining, briefly, the main steps that you are taking. We are interested in why you choose to apply each technique, algorithm, etc.
2. Do not fear to submit and explain your failed attempts, why you did it and why they failed.

# Notes

You can use any library that you want