

**Presentation to the
Engineering Professors Council
Recruitment & Admissions Forum
IMechE HQ 11th Nov 2015**

By Dr David Ball Chairman - Design Challenge

- The purpose of the design challenge is to simulate the requirements of a Professional Engineer.
- The Design Challenge was introduced in 2007/2008
- Since the onset there are now 8 Regions of the UK involved with some 30 Universities
- It is the desire of the Institution for all 1st year Engineering students to benefit from the learning experience of the challenge
- The winning team from each Region compete for the prestigious National Trophy

National Trophy's



The Competition consists of four main elements which represent the requirements of a Professional Engineer and is open to teams of up to 5 1st year Engineering students

- 1) Design, Make, Test, Compete**
- 2) Presentation Competition**
- 3) Poster Competition**
- 4) Peer Review Competition**

Most Universities require a written report about their design and the Engineering science that underpins it

The teams have to Project Manage their Design Solution from start to finish

The Institution provide prize money of £1200, a trophy and certificates

Design Challenge Projects

Eight Design Challenge Projects have been developed since the onset.

Five projects have been adopted to be used consecutively over a five year period

Each year a project is adopted and applied in each Region

In each case the teams have a budget of £20

Each of the five challenge projects represents a real life application

No 1 – External Pipe Climber (Kingston 2015) The real life application can be related to a hoist etc.

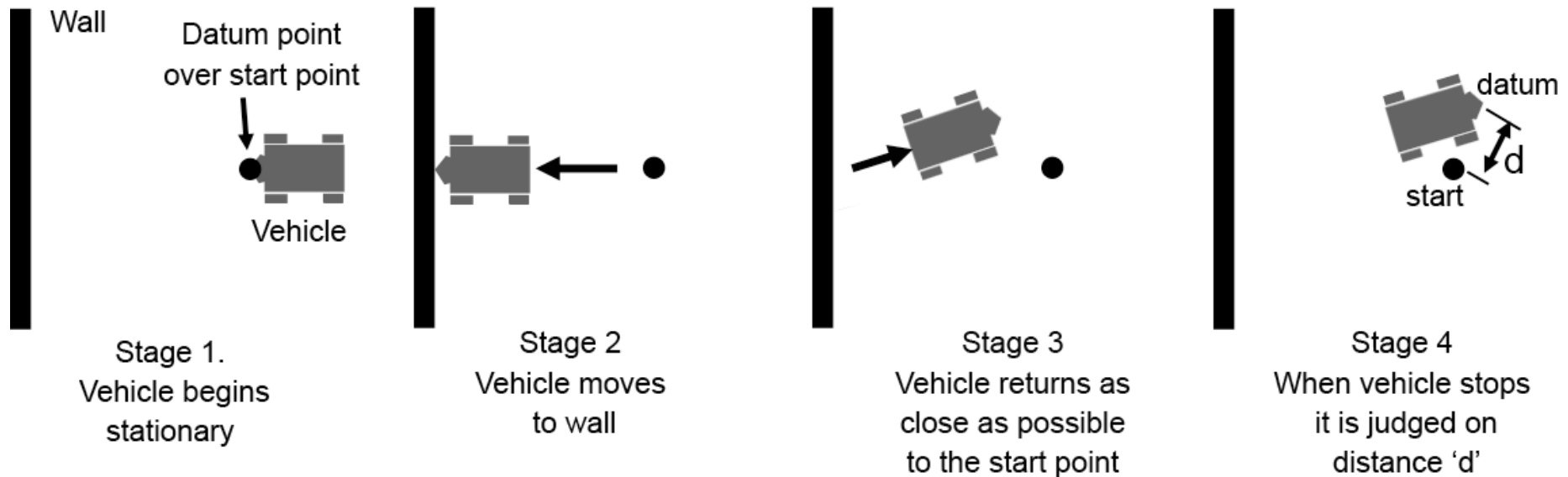


No 2 – Internal Pipe Climber (London 2014)

The real life application can be related to cleaning pipework etc.



No3 – Reversing Vehicle (2012 University of Manchester) The real life application can be related to a remote vehicle etc.



No3 – Reversing Vehicle (2012 University of Manchester)



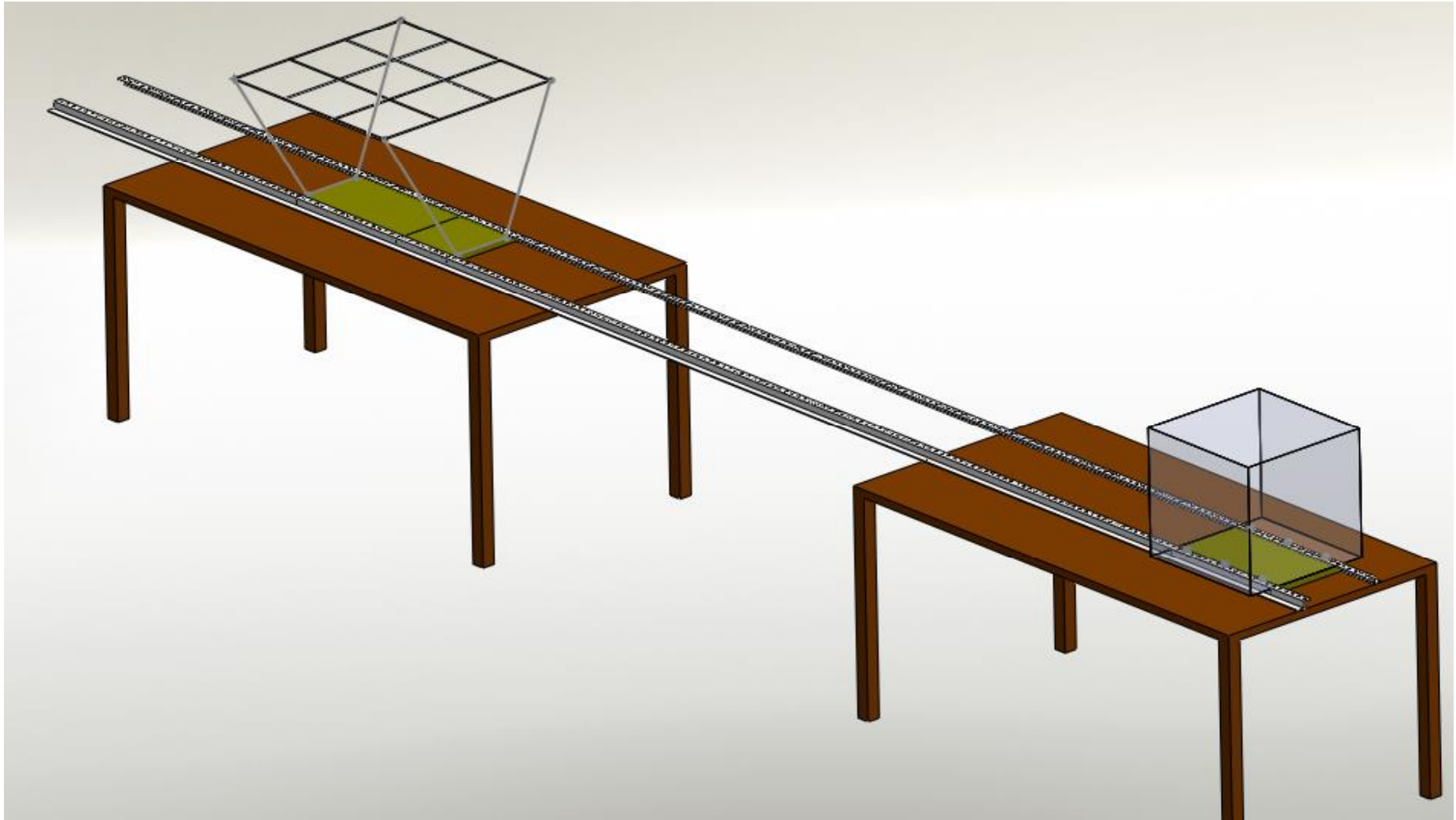
No 4 - Water Pumping Device (MMU 2011)

The real life application can be related to a pump for a mine shaft etc.



No5 2016 Challenge – Line Launcher





Summary

- The Design Challenge provides an excellent introduction to Engineering
- The Institution are attempting to find sponsors to offer work placements for the winning teams
- A second year Design Challenge has been developed
- It is the intention to have a suitable Design Challenge for each year of the course to develop Engineering application skills