



LEGO Robotics and Innovation



Helping students to an innovative mind-set

Programme:

- + Brief introduction
- + What is innovation?
- + Why is innovation important to the student of tomorrow?
- + Examples of problem-solving activities
- + Hands-on programming
- + Final robot challenge
- + Quiz, evaluation and feedback

Brief introduction:

- + Thomas Woll, Trørødsolen
- + Teacher, Physics and chemistry, 1997
- + Lego Education Center Teacher, 2007
- + Advanced Skills Teacher, science 2010
- + Elective course, Robot Technology, 2014

What is innovation?

Definitions of innovation

1.

n the act of starting something for the first time; introducing something new

Synonyms: [creation](#), [foundation](#), [founding](#), [initiation](#), [instauration](#), [institution](#), [introduction](#), [origination](#)

Types: [authorship](#), [paternity](#)
the act of initiating a new idea or theory or writing

Type of: [beginning](#), [commencement](#), [start](#)
the act of starting something

n a creation (a new device or process) resulting from study and experimentation

Synonyms: [invention](#)

Type of: [creation](#)
an artifact that has been brought into existence by someone

Why is innovation important?

- + The world needs people who can think for themselves
- + The future belongs to the curious
- + It helps you to see solutions instead of problems
- + Success comes to those who innovate, change and adapt!

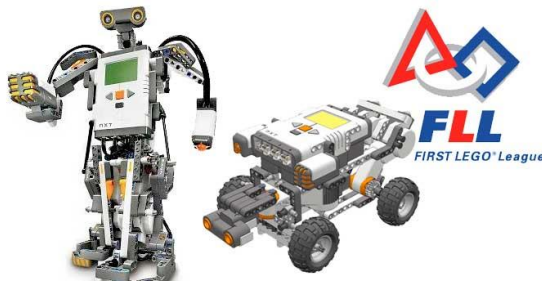
"65% of the kids in preschool today will work in a job or career that doesn't yet exist"

Jim Carrols, The future belongs to those who are fast



Examples of problem-solving activities:

- + Programming and remote control
- + GBC, -Great Ball Contraption
- + Robot Olympics
- + First Lego league



Introduction to EV3 programming

- + Objective: Don't hit the pedestrian!
 - + $\text{Power} \times \text{Seconds} = \text{Distance}$
- + Objective: Avoid the other robots
 - + Use the ultrasonic sensor
- + Final Objective: Get around the box
 - + Use your skills

Quiz

- + Find your electronic device (tablet, computer, smartphone)
- + Go to <https://kahoot.it>
- + Enter Game pin
- + Quiz time!

