EE2E
West Auckland Engineering Pathway

Unitec Institute of Technology
6 West Auckland Schools
Project Lead: Robyn Gandell
Key Outcomes

• Promotion of engineering to students, with focus on under-represented groups - Maori, Pasifika and women

• Co-delivery of Learning Opportunities by secondary and tertiary teachers

• Professional Development for both secondary and tertiary staff.

• Positive teacher/community perception of Unitec and ITPs

• Project sustainability
2017 Model

- 4 + 1 model
- 1 day with Unitec linking Industry and practical projects to Maths and Physics
- 12 Physics/Mathematics secondary teachers
- 40 x Y12 secondary students (in 2017)
- School Terms 1 - 3
In student’s words – what they enjoyed the most

Applying theory to practical situations

- “the outdoor stuff and I like relating the physics and maths to practical activity”
- “Easier to learn when you see how its being applied, rather than just being told how it should be applied”

Upskilling in math's

- “learning new ways to problem solve, plus learning new methods of maths”

Upskilling in physics

- “learning new equations and formulas through physics because it helps me a lot back at school”

Off-site trips & employer visits

- “Talking to people in the industry, getting to know what its like”
- “You could see places where you might end up working”
What did students learn that surprised them the most?

- Different type of engineering - “How many branches of engineering that there really are”
- Importance of maths and physics
  “Number of formulas you need to know”
Key Findings from 2017

Students:

• Gained increased understanding of engineering careers
• Enjoyed linking practical and theory
• Competing study demands
• Many students were already considering engineering careers
2018 model

Block projects Connecting Unitec, Secondary Schools and Industry

- Developed around industry problem
- By a team of secondary teachers and Unitec engineering lecturers
- Run over 3 days
- 20 students per project x 6 projects
- Years 9 - 13
Challenges and opportunities

• Difficult to co-ordinate
• Change in workload
• More students at a variety of ages connect to engineering earlier
• Better secondary tertiary partnership especially for lecturers and teachers
• More integration between schools, Unitec, and community