

**WHAT IS
ENGINEERING SCIENCE?**

What is “Engineering” and “Science”?

Engineering

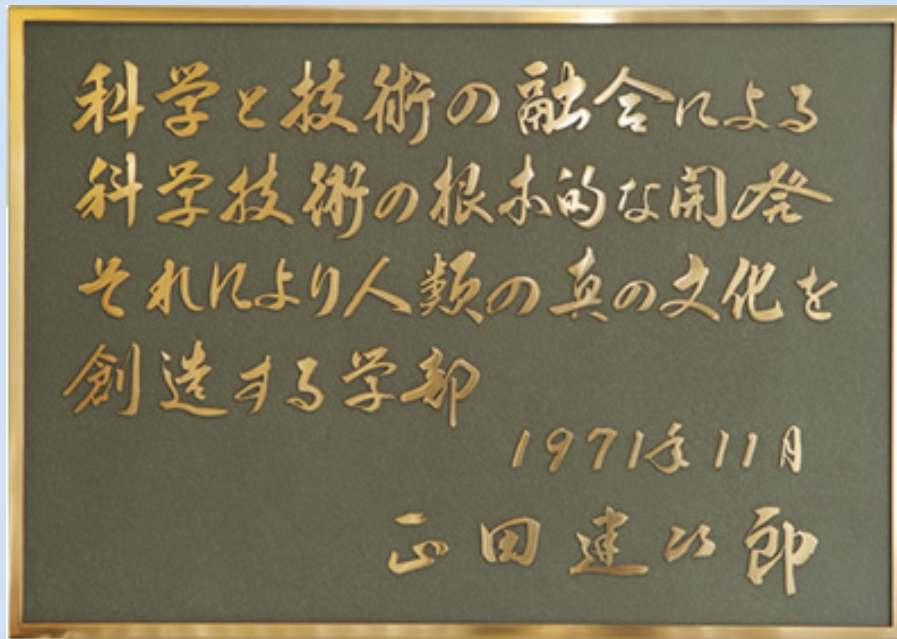
Engineering is the application of scientific, economic, social, and practical knowledge in order to design, build, and maintain structures, machines, devices, systems, materials and processes. It may encompass using insights to conceive, model and scale an appropriate solution to a problem or objective. The discipline of engineering is extremely broad, and encompasses a range of more specialized fields of engineering science, each with a more specific emphasis on particular areas of technology and types of application.

Science

Science (from Latin *scientia*, meaning “knowledge”) is a systematic enterprise that builds and organizes knowledge in the form of testable explanations and predictions about the universe. In an older and closely related meaning, “science” also refers to a body of knowledge itself, of the type that can be rationally explained and reliably applied. A practitioner of science is known as a scientist.

What is “Engineering Science”?

Engineering Science



The School of Engineering Science was established in 1961 to develop scientists with a keen interest in practical technology, and engineers who have a firm grasp of the basic sciences and who may use this expertise to develop **new technology**.

A quotation from a website of “Osaka University School/Graduate School of Engineering Science “

Engineering Science in Osaka University

Curriculum

- Choose one from four departments from electronics to biology when enter university
- One fundamental years studying a broad range of subjects.
- Other 3 years for Specializing within three or four options which are related to department.

Focus on developing

- scientists with a keen interest in practical technology
- engineers who have a firm grasp of the basic sciences and who may use this expertise to develop new technology.

Engineering Science At The University Of Toronto

The division of Engineering Science is encompassed within the faculty of Applied Science and Engineering.

A highly rigorous program focusing on building the student's fundamental grasp of scientific principles and theories, while learning the tools to apply this in an engineering context.

Breakdown Of Program

- ◆ Two fundamental years delving in a broad range of subjects.
- ◆ Specialization within eight available options ranging from Physics to Biomedical engineering.

Engineering Science at the University Of Toronto fosters creative thinking, experimental and a process based approach to real world problems, thus encompassing all facets of the engineering science ideology.

NUS Engineering Science Programme

- The ESP offers a
 - rigorous design centric
 - broad based multidisciplinary curriculum in engineering and science
- Curriculum
 - fundamentals of engineering and science in first two years
 - multidisciplinary specialization options
- It aims to produce graduates who
 - possess in-depth understanding of both scientific and engineering principles

**WHY IS
ENGINEERING SCIENCE
NECESSARY?**

Of course, YES!

Why is Engineering Science necessary?

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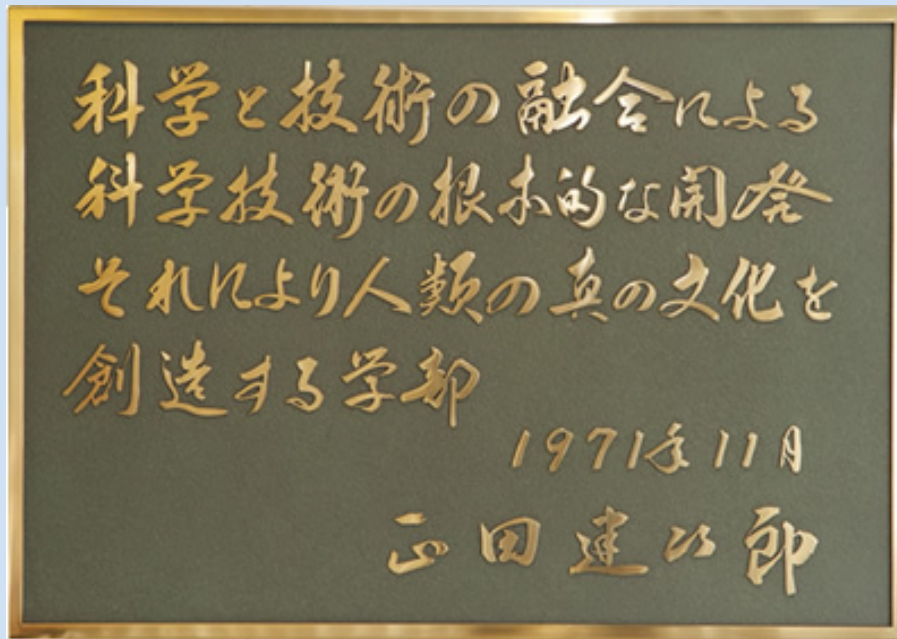
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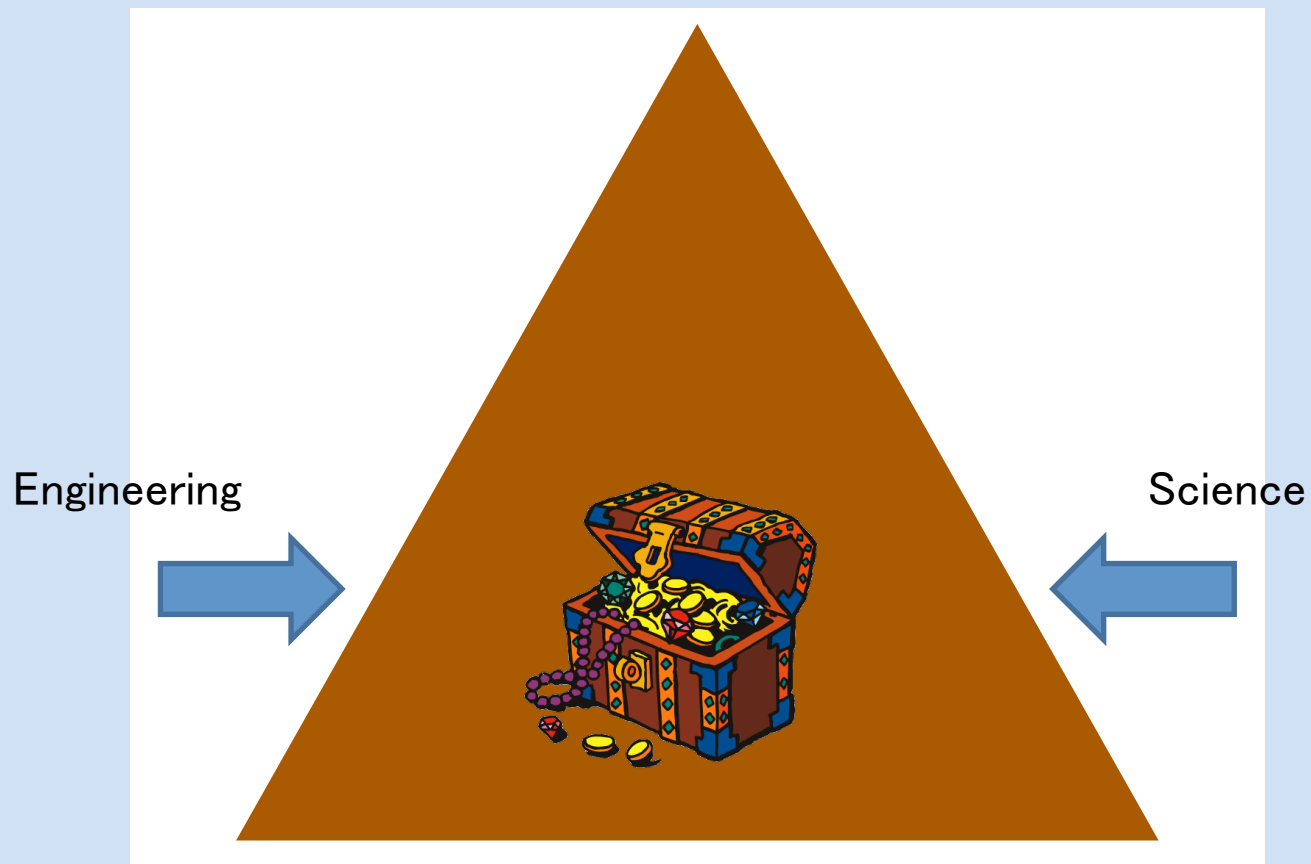
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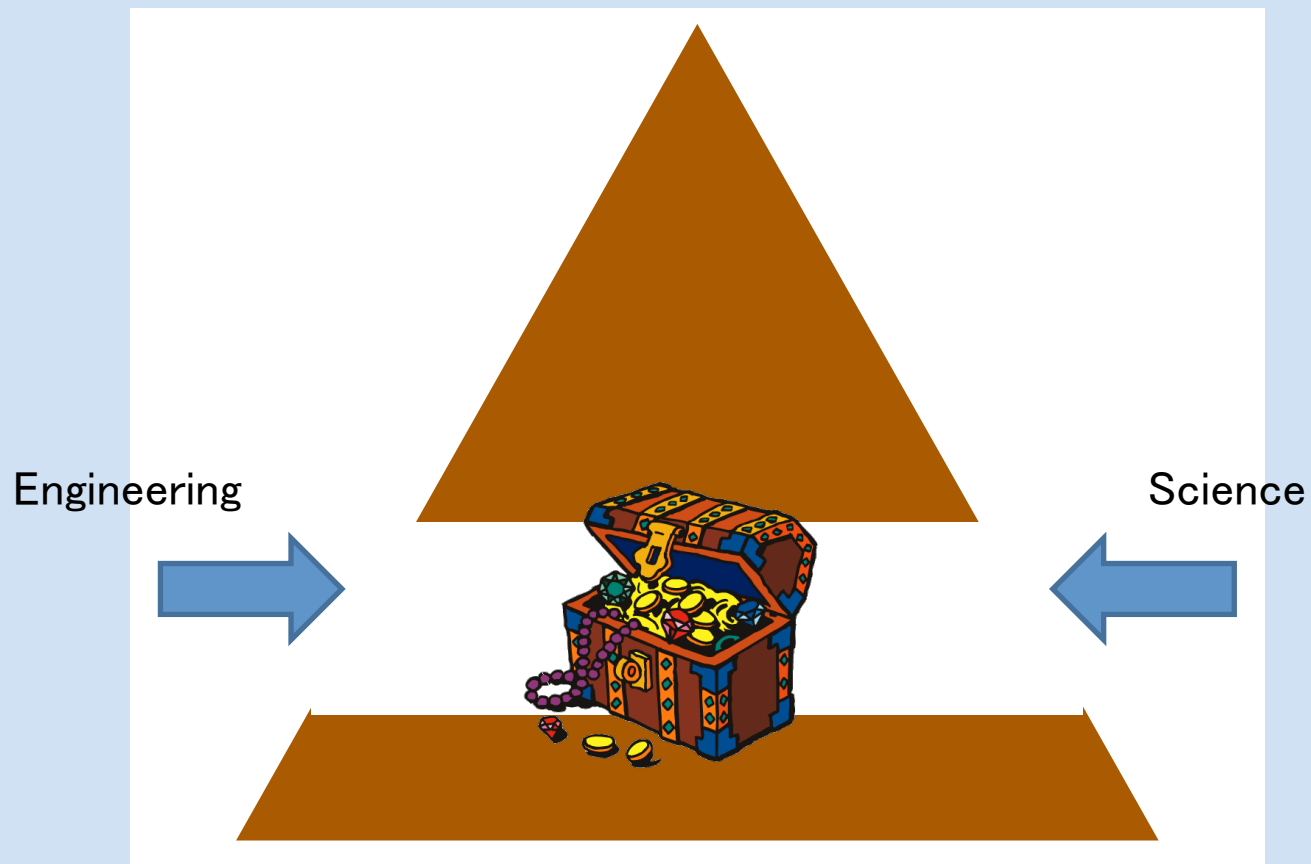
Wide expertise forms a bridge between Engineering and Science



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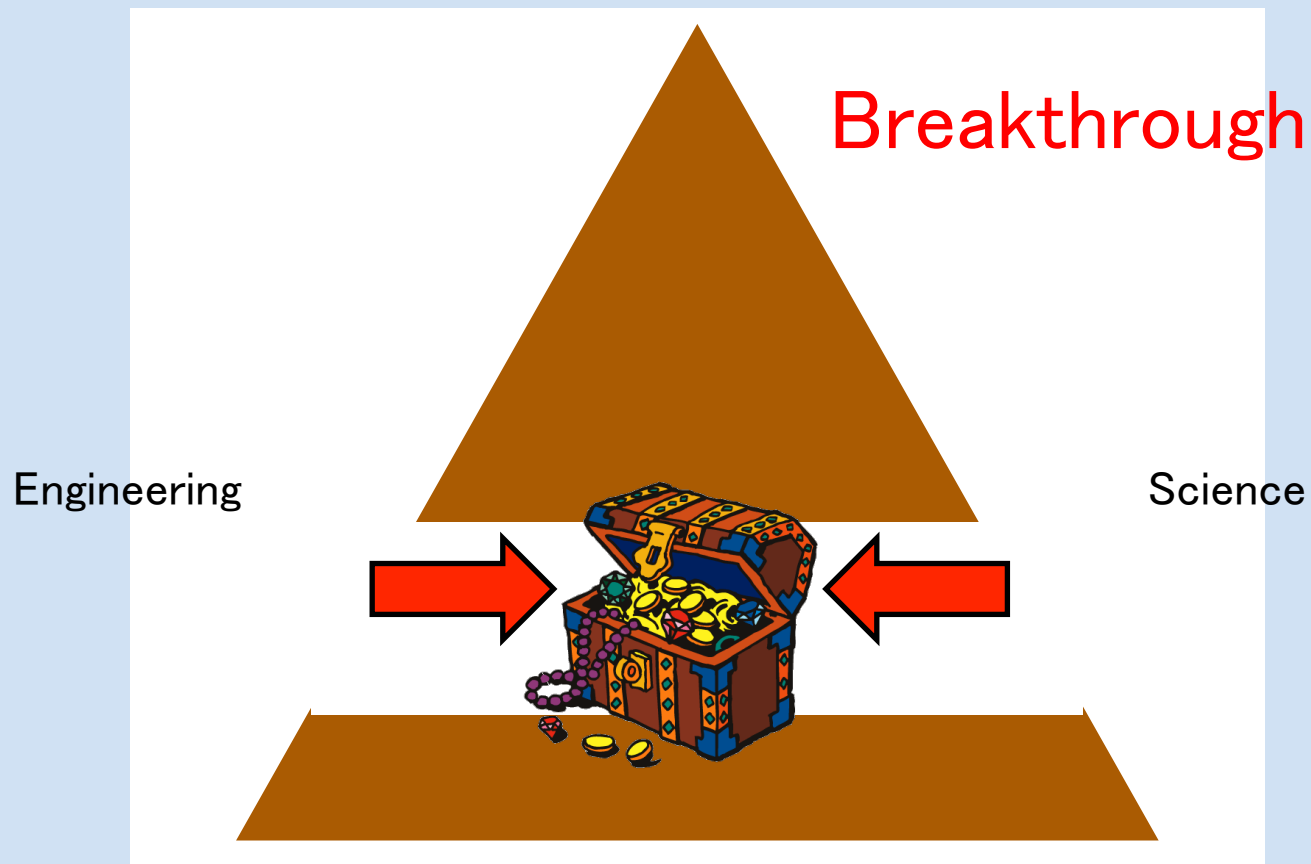
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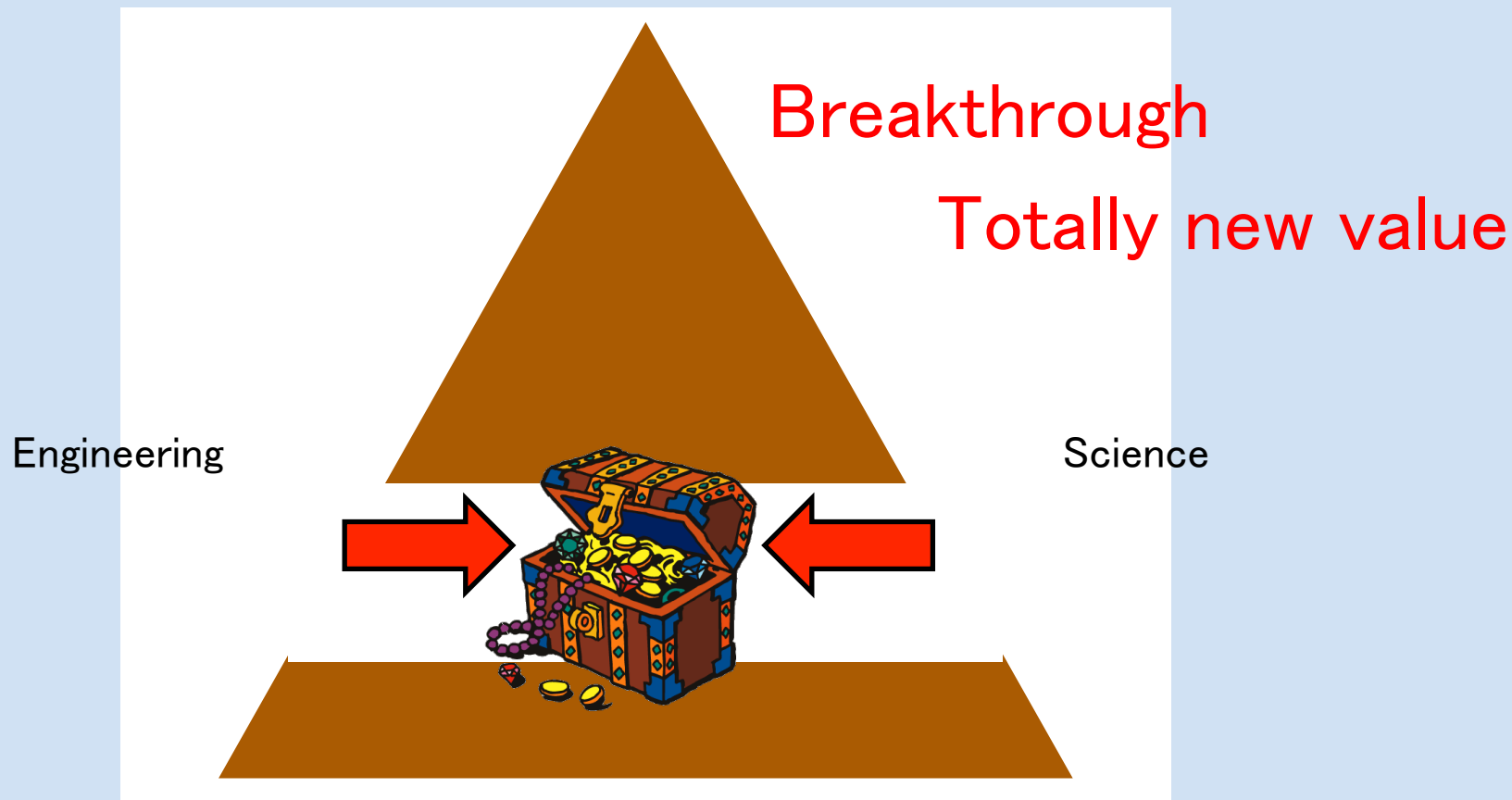
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Why is Engineering Science necessary?

Engineering science is the combination between
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