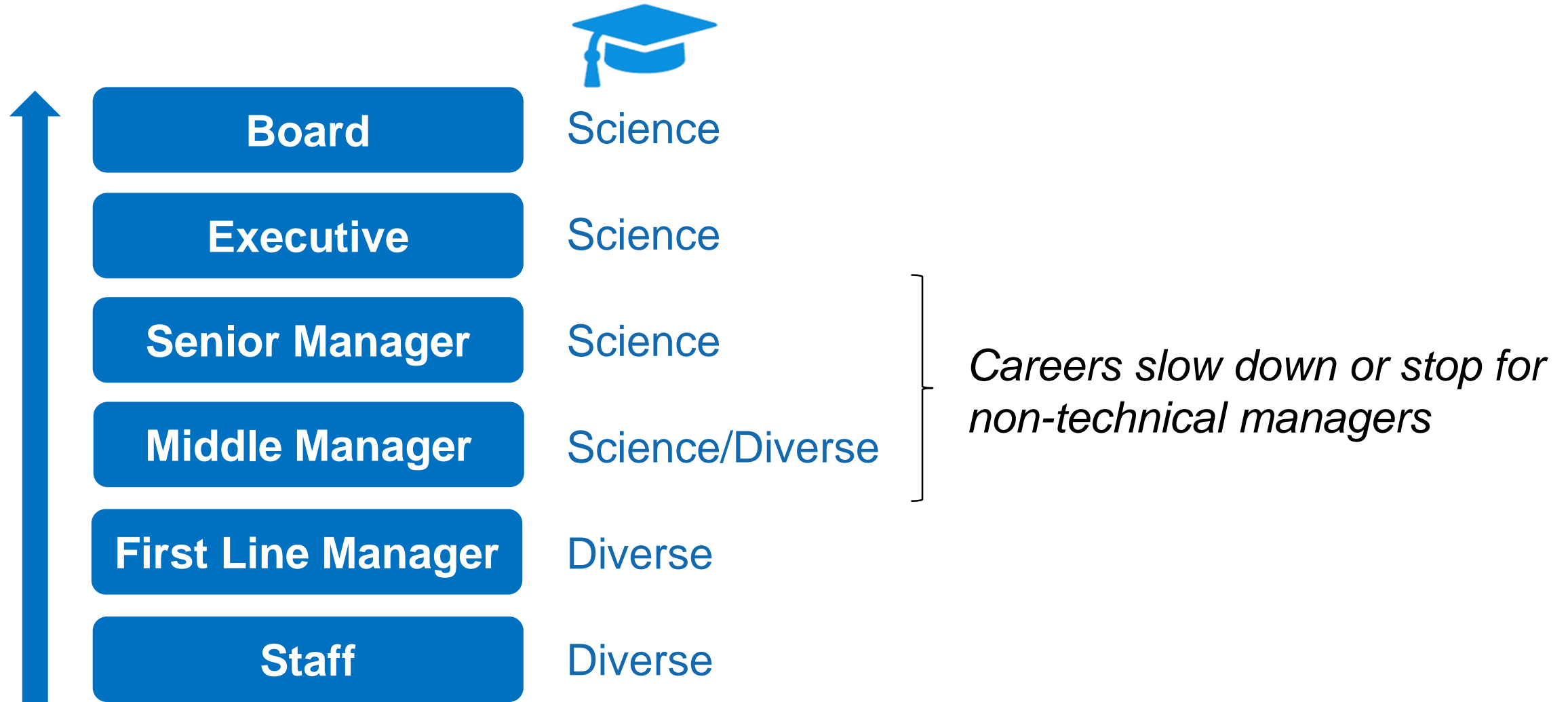# MAS in Applied Technology (MAS AT)
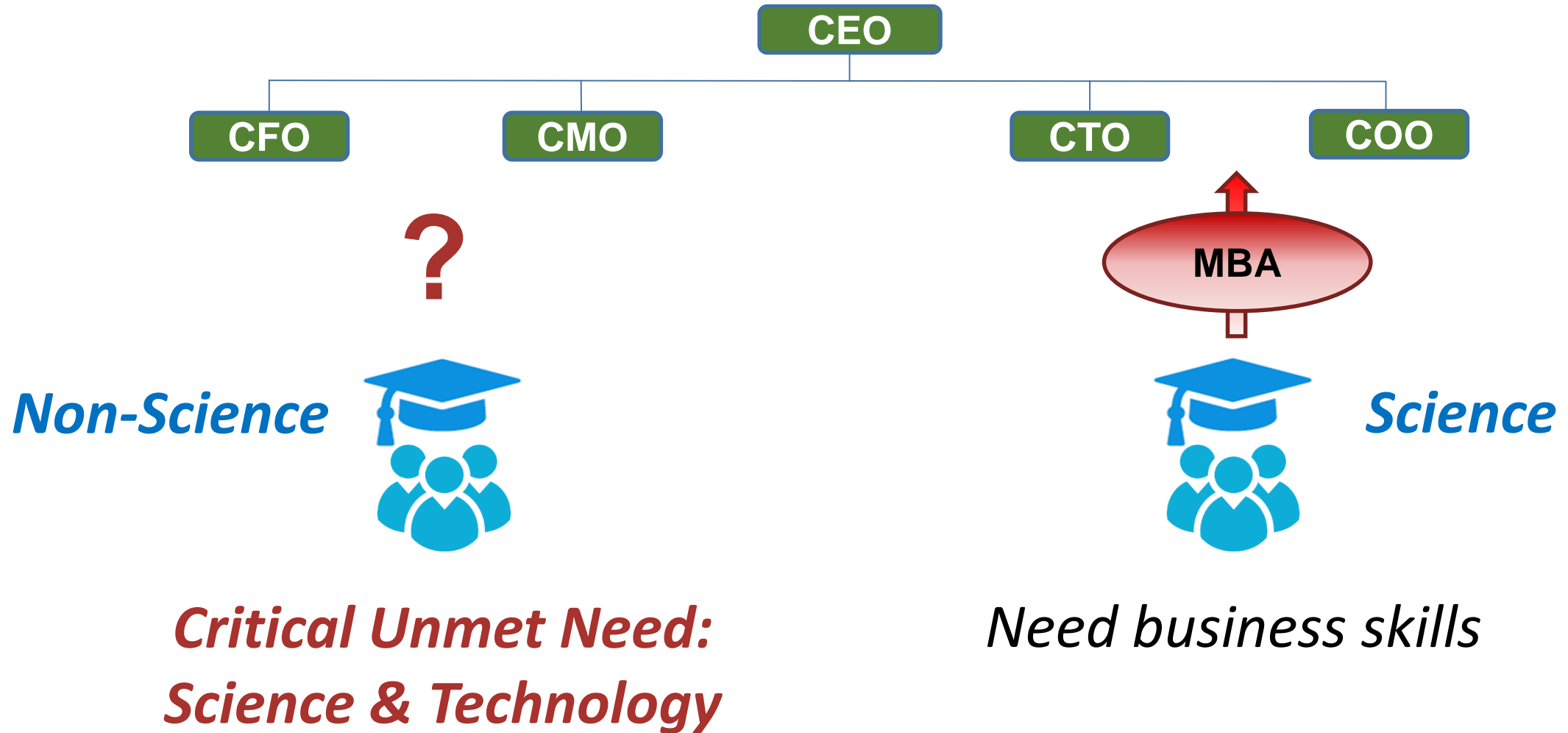# Concept and Programme

Developed in Response to Industry Request

- Problem: Lack of qualified candidates for senior management in technology companies

  ➢ Science and technology qualifications are missing

  ➢ Existing education and training options are inadequate

Career Advancement in Technology Companies

Board	Science
Executive	Science
Senior Manager	Science
Middle Manager	Science/Diverse
First Line Manager	Diverse
Staff	Diverse

Careers slow down or stop for non-technical managers

Gap in Continuing Education Market

CEO

CFO   **CMO**   **CTO**   **COO**

?

MBA

Non-Science   *Science*

Critical Unmet Need:
Science & Technology

Need business skills

Positioning as "Reverse" MBA

Non-Science
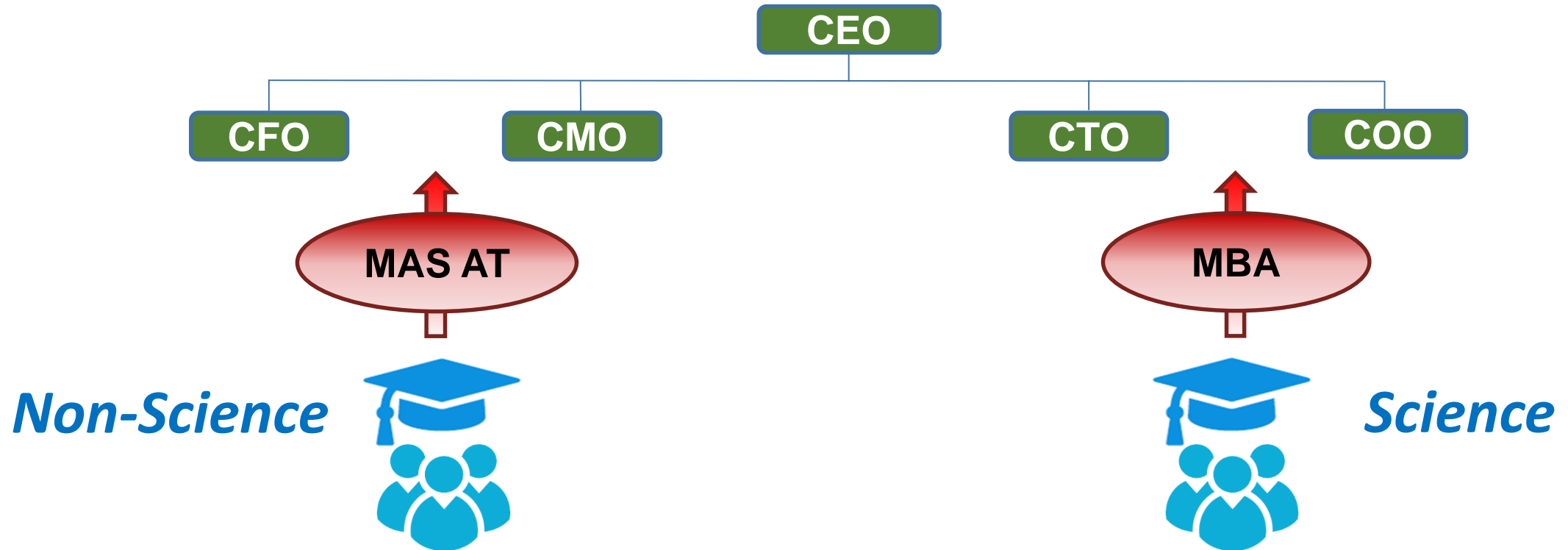
Science

*Provides **science & technology knowledge** and **innovation skills***

Programme Concept – Goals

- Continuing Education Degree Enabling Graduates to
  - Understand the scientific aspects behind the most important technologies in their industry
  - Collaborate more effectively with technical experts and managers in order to provide interdisciplinary, technology based solutions to industry problems
  - Better lead technical staff and technology-based companies

Target Participants

- Experienced managers

- In technology companies or industries

- Non-science or single science Master's degree

- Promotion Potential

Example Participant – Marketing Manager

12 years – Manufacturing

Manages groups in 3 EU countries

Masters in Marketing & Communication

Supervisor & HR Feedback

➢ Next level will require more interdepartmental collaboration

➢ Should improve understanding of operations and engineering

Personal Goals

➢ Improve product design

➢ Understand opportunities created by technology

Example Participant – Finance Manager

6 years – Electronics Industry

First Line Manager, Finance Dept.

Masters in Finance

Supervisor & HR feedback

➢ Excellent with numbers

➢ Look beyond the numbers and help the company be more innovative, especially in its use of technology

Personal Goals

➢ Stronger relationships with technical managers in the business unit

➢ Not feel lost in technical conversations

MAS AT Program Structure

MAS	Applied Technology	66 ECTS
CAS 1	Applied Information Technology	12 ECTS
CAS 2	Applied Manufacturing Technology	12 ECTS
CAS 3	Applied Technology Elective*	12 ECTS
CAS 4	Applied Technology: R&D and Innovation	10 ECTS
Experimental Project		10 ECTS
Master's Thesis		10 ECTS

* Participants select from available options; subject to change

MAS AT Study Plan – First Round

	September - December	**January - April**	**April - July**
2019-2020	**CAS 1** **Applied Information Technology**	**CAS 2** **Applied Manufacturing Technology**	**CAS 3** **Applied Technology in Energy (Elective)**
2020-2021	**CAS 4** **Applied Technology: R&D and Innovation**	**Experimental Project**	**Master's Thesis**

CAS 1 – Applied Information Technology

E-tutorials (14 weeks)

Foundations of Computer Science (3 ECTS)

Block Format (4 weeks each)

Data Science (3 ECTS)

Humans and Machines (3 ECTS)

Applied Information Technologies (3 ECTS)

Experimental Project

- Goal
  - ➢ Explore and improve understanding of a specific technology application
  - ➢ Better appreciation of typical problems during technology development

- Project Options
  - ➢ ETH supervised project
  - ➢ Participant designed (with prior written approval of Advisor and ETH Lab)

- ETH Advisor
  - ➢ Assigned based on project selection
  - ➢ Meet during CAS 4 for advance planning

Master's Thesis

- Subject
  - Evaluate a technology application to solve a real industry problem
  - Problem and technology freely selectable (with Advisor approval)

- Key Points
  - Integrative of material and skills learned in programme
  - Must be sufficiently rigorous from science and technology perspective
  - Other information (policy, market, etc.) should be context only, not primary focus
  - Start early!

- ETH Advisor
  - Ideally, same advisor as experimental project
  - Meet during CAS 4 for advance planning

Further Information

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