

Task Force – National STEM Platforms

Estonia, 16 September 2013



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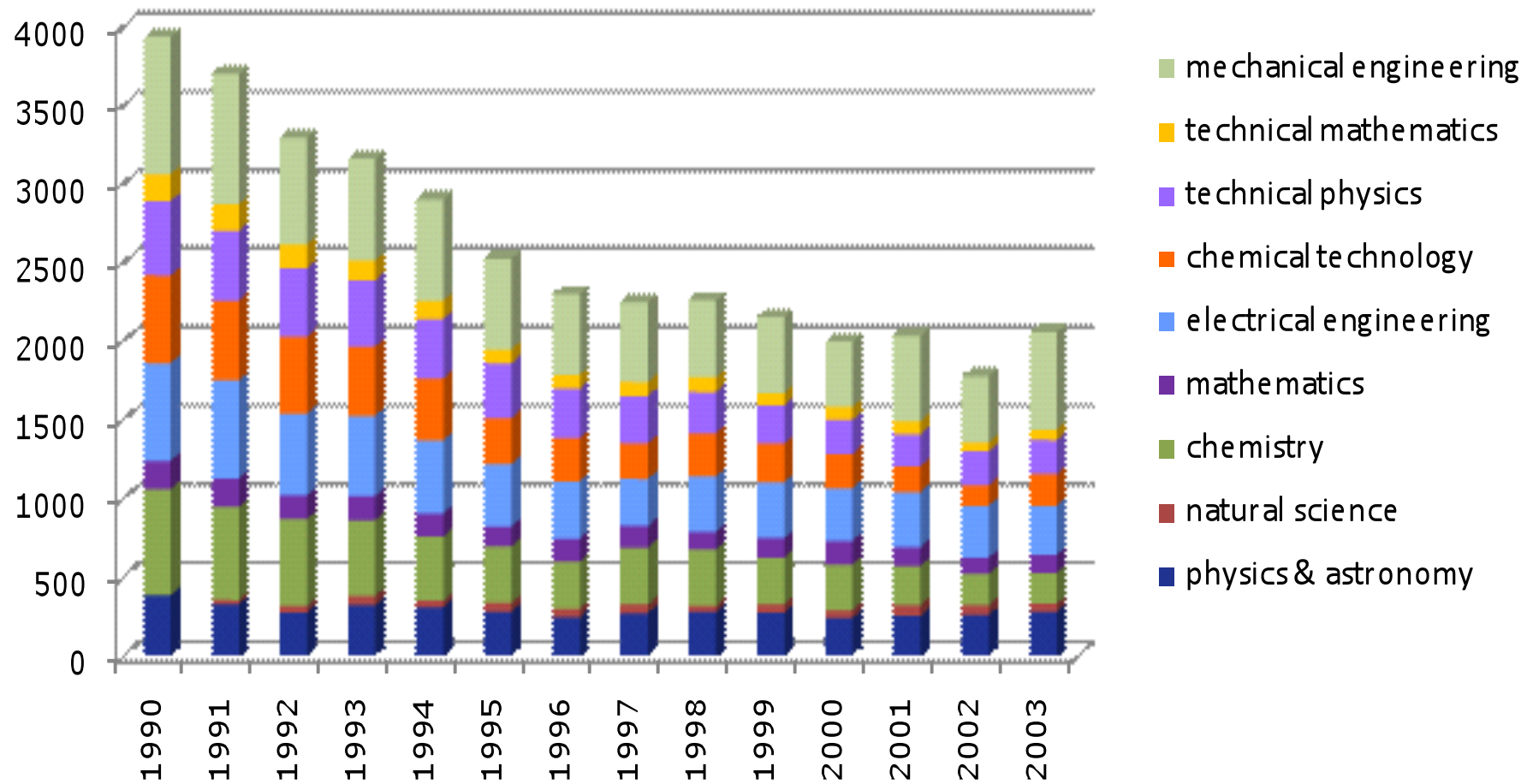
The Dutch Approach

Platform Beta Techniek & Jet-Net

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WHY?



Short historical overview

In the past some diffused policies:

- 1987-1993: Media campagnes
- 1998 STEM covenant with 6 universities

1998 - 2004: Start of chain approach: “Axis”

2000: Lisbon ambitions

2002: Lobby companies (Shell, Philips): Jet-Net

2004 - 2016: National STEM Platform ‘Beta Techniek’

- 2011 – 2016: Masterplan Science & Technology ‘4 out of 10 STEM workers’

 May 2013: Technology Pact – goals realised in 2020

Source: Dutch Deltaplan

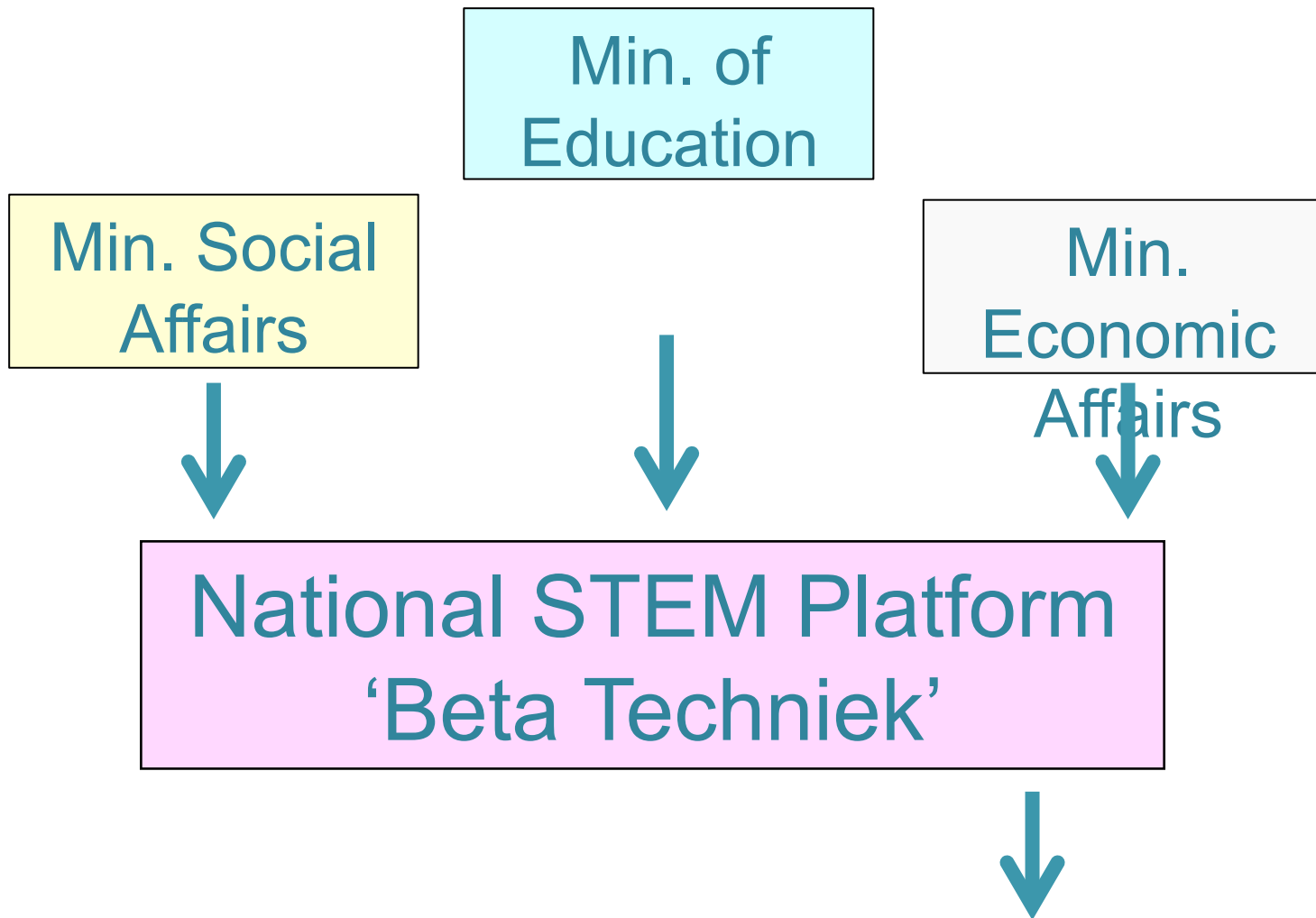
National STEM Platform

- Action plan to address shortfall in STEM experts
- Drafted by Ministries of Education, Economic Affairs and Social Affairs
- Four key strategies: interesting programs, appealing jobs, interesting options and attractive business climate
- 2010 objective: **15% more STEM graduates**
- Implementing **agency**: National STEM Platform



Source: Dutch Deltaplan 2004

-
- Budget: €60 million per year (2004-2010)



Strategy National STEM Platform

- From primary school to the job market: chain approach
- Implemented by educational institutions
- Result-oriented → Performance & innovation contracts
- Monitoring & auditing → intervention

Projects Platform Bèta Techniek

Primary Education

Secondary Education

Vocational Education

Higher Education

SCHOOL
AAN ZET

Toptechniek in Bedrijf

hbo
centres of
expertise

orion programma
wetenschapsknooppunten

bèta excellent
ambitie & uitdaging 2011 - 2016

mbo
centra voor
innovatief vakmanschap

TK TalentenKracht

VO-HO netwerken

EERST DE
klas

Jet-Net
Jongeren en Technologie Netwerk Nederland

sirius programma
excellentie in het hoger onderwijs

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TechNet

Sectorplan Natuur- en
Scheikunde

Sprint-UP

3TU Sectorplan
Technologie

Topsectors and Masterplan Science & Technology

Masterplan Science & Technology

Human Capital agenda for STEM

2011 – 2016

Total inflow on Labour

Market:

1.3 million

**500.000
Jobs
in STEM**



*We need Market share
of 40%*

**330.000
STEM
workers**



*Current Market
share 25%*

**Shortage
170.000**



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Source: Masterplan Beta en Technologie

Technology Pact

- Pact signed by 60 organisations
- A shortage of 30.000 STEM graduates every year
- Three action lines:
 1. Choosing for technology
 2. Learning in Technology
 3. Working in Technology
- Regional implementation
- 23 measures in the Pact, a few examples:
 1. By 2020, all 7,000 primary schools in the Netherlands will have science and technology on their curricula.
 2. The government will make available a one-off sum of €100 million to get more science teachers into secondary schools and to allow teacher training programmes to devote more attention to technology.
 3. Businesses in the designated top sectors will make 1,000 scholarships available annually



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Jet-Net – Youth and Technology Network

November
2002



DSM

BRIGHT SCIENCE. BRIGHTER LIVING.

PHILIPS



AkzoNobel
Tomorrow's Answers Today



Unilever



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Source: Jet-Net 2002

Cooperation within Jet-Net

- Educational institutions
- Government
- Industry

LONG TERM VISION
LONG TERM VISION



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Source: Jet-Net 2002 -2013

Goal and Procedure Jet-Net

Goal:

Promote the flow of students to higher STEM Education

‘4 out of 10 STEM workers’

Dual approach:

1. Adding context to the teaching of the STEM-subjects → lower barriers
2. Showcasing career prospects in industry and technology → increase attraction



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Source: Jet-Net 2002 -2013

Goals and Procedure

- 1 on 1 collaboration between school and company
- Employees are ambassadors of their discipline
- Target groups: pupils (age 12 – 18), teachers and parents
- Curriculum of school
- Joint program and quality development
- Activities in junior and senior high school years
- 80 – 20 rule ‘Learning by doing’
- National annual activities for teachers and students



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Source: Jet-Net 2002 -2013

Conditions for success

- **Commitment** of the school and company: human power, resources, time and initiative
- **Direct link** school and company
- Embedding activities in the **curriculum**
- Convert **enthusiasm** to professional approach
- Let students experience by **doing-it-themselves**



Source: Jet-Net Evaluation 2008

Results Jet-Net over 10 years

- 87 Jet-Net companies and 31 Partners
- >600 activities every year
- 175 active Jet-Net schools
- >60.000 students per year
- 3.500 students Career Days in 2012
- 80 schools on the waiting list

PHILIPS

Brunel
Engineering



SIEMENS

FLUOR

wetsus
centre of excellence for
sustainable water technology

TU/e Technische Universiteit
Eindhoven University of Technology



MANDERS
AUTOMATION



Plantum NL



ROCKWOOL
BRANDSILITE ISOLATIS

TEIJIN

IBM



FESTO

ROYAL HAKSONING
Enhancing Society



[Technasium]



PROMOLDING



FHI FEDERATIE VAN
TECHNOLOGIEBRANCHES



ABB

TATA STEEL



ORACLE

ERIES



MOOG
BRADFORD



NCB naturalis

VDL Enabling Technologies Group



nijssen/granico



FUJIFILM

Intervet
Schering-Plough Animal Health

VNO NCW



DSM

VNCI

FME CWM

MUSEON



Transtrend

ASH
ACB SCHMIDT HOLLAND

NYOM

VhTo



Intertek Polychemlab



Collis



gasunie



Venco Groep



ureenco

simac

Van der Laan

DE HAAGSE
HOGESCHOOL



ECN



Fontys

SEKISUI

ALVEO

fedet



PANalytical

Opleidingsbedrijf
installatiewerk

BOON EDAM

ABR LIQUIDE



btg

Smurfit Kappa

INEOS

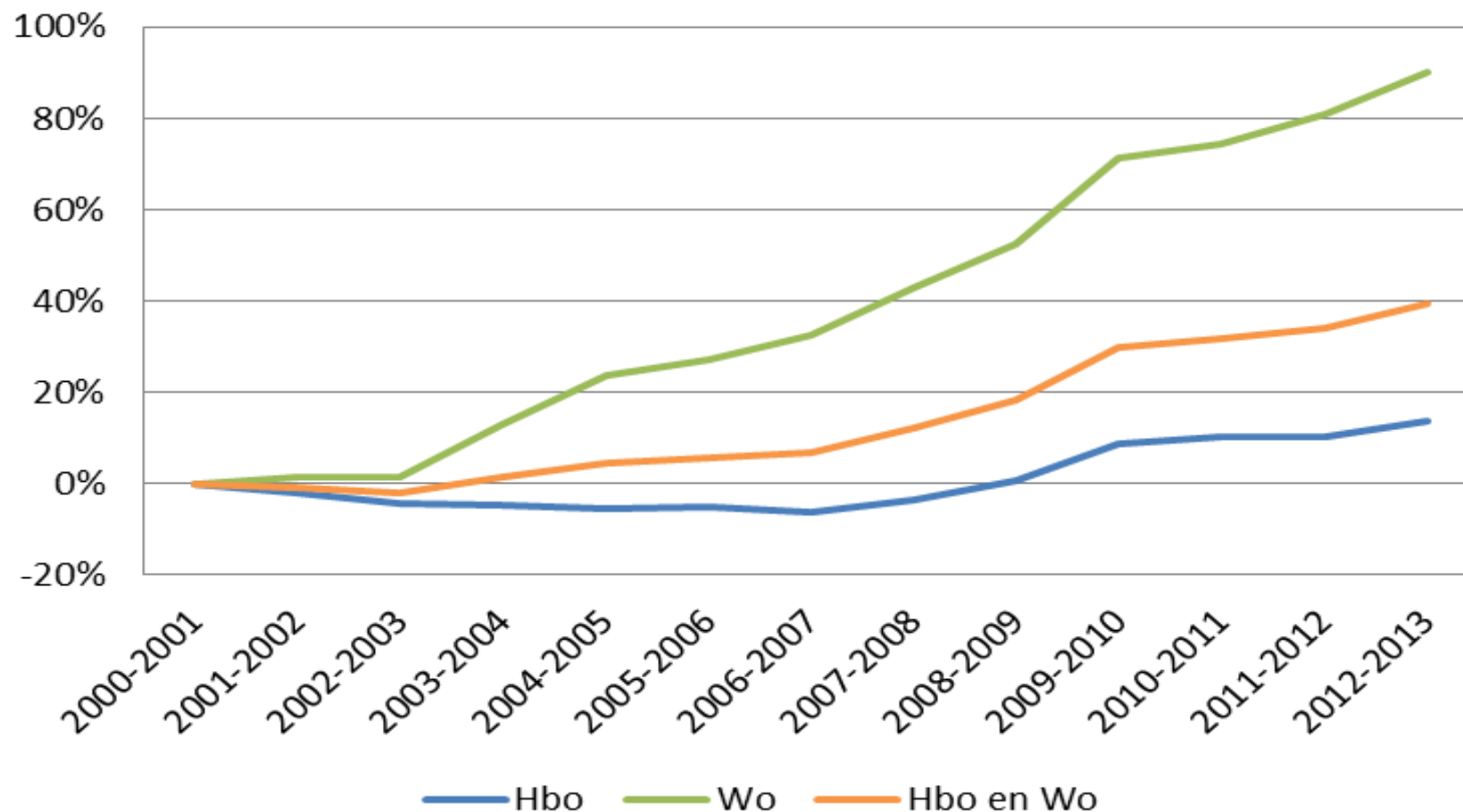
INTHER



cordstrap

Results Inflow Higher STEM Education

Instroom betatechnische studenten tov 2000



Benefits for the Jet-Net Company

- Highly motivated staff
- Network
- Get in contact with a new generation
- Corporate Social Responsibility
- Wider Labour Market

Support

Barroso: “Jet-Net is a Powerful example in Europe”



Kleisterlee: “Inspiring young people for science and technology is our commitment towards

Jet-Net and a knowledge based economy”



Questions?

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