



2004-2016 Agenda Science, Technology, Engineering and Math (STEM) in the Netherlands

**Continued investment in the
Netherlands' future**

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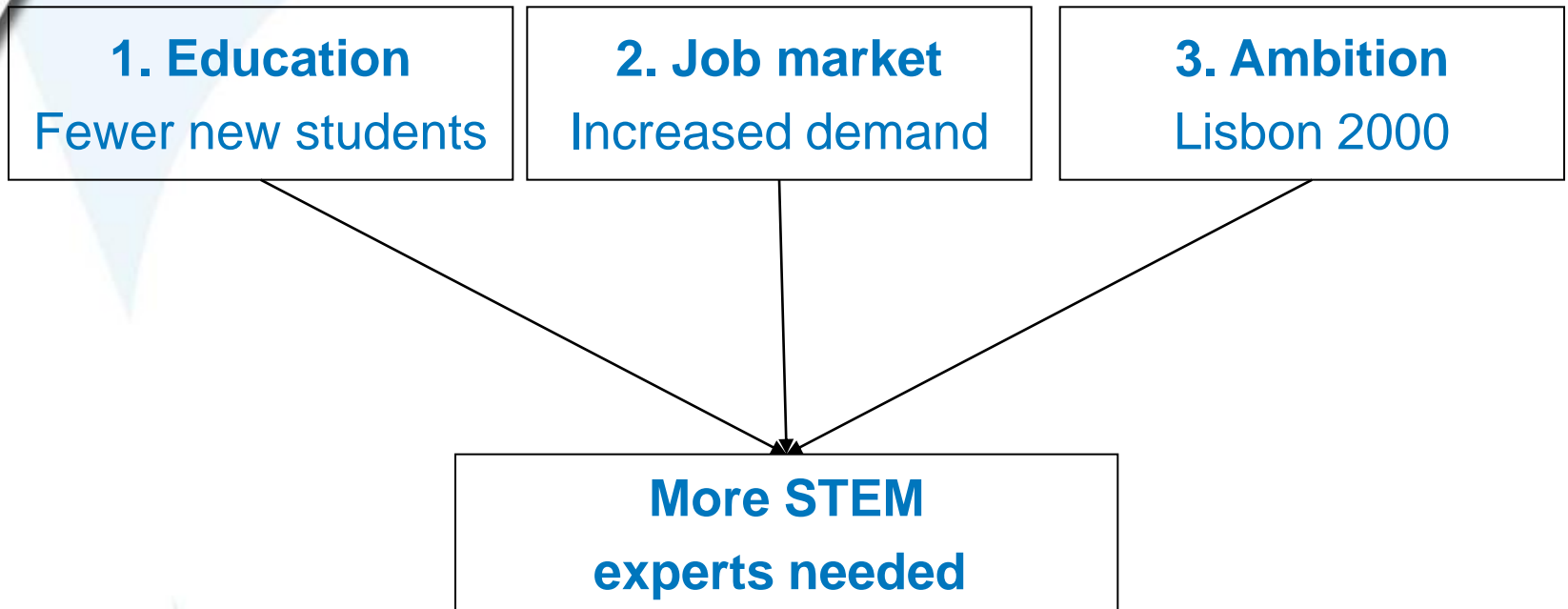
Director National Platform Science & Technology

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I History and strategy

Reasons motivating STEM Agenda



2004-2010 STEM Delta Plan

- **Action plan to address shortfall in STEM experts**
- **Drafted by Ministries of Education, Economic Affairs and Social Affairs**
- **Four key strategies: interesting degree programmes, appealing jobs, interesting options and attractive business climate**
- **2010 objective: 15% more STEM graduates by 2010**
- **Implementing agency: National Platform Science&Technology**
- **Budget: €60 million per year (2004-2010)**

Strategy

- From primary school to the job market: chain approach
- Implemented by institutions and businesses themselves
- Result-oriented, not approach-oriented
→ Performance & innovation contracts. No free rides.
- Continued feedback and improvements (monitoring & auditing) → intervention strategy: doing things better!
- Support by developing and sharing knowledge/STEM experts and funding



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II Programmes

Programmes

Primary education

- 2.500 schools: Science & Technology
- Training 10.000 teachers in STEM
- Research programma Curious Minds (Talent-development)

Secondary education

- ± 200 schools: STEM-profiling
- cooperation with labour market (Jet-Net)
- new exam-programmes/curriculum innovation

Higher education

- chain approach (cooperation with secondary education)
- broad bachelor
- Interdisciplinary education
- cooperation with labour market

Jet-Net

- **65 partners (50 companies, 15 (research) institutions)**
- **167 schools**
- **>35.000 pupils / year**
- **>600 activities / year**

Jet-Net - Activities

Teacher workshops

- Study Orientation**
- Workshops / Expert meeting**
- JNCD / Meet the Boss**
- Guest Lectures**
- Company Assisted Research**
- In Company Orientation**
- Profile Choice Information**
- Workshops / Beta market**
- Girls Day**
- University for children**

Jet-Net – How does it work?

Continuous programs throughout high school

Junior years

Contextual

Profile choice information sessions

Workshop@the company

Guest lecture

Workshop@school

Science & technology fare

Senior years

In Depth

Careers guidance

Company assisted research

Expert meeting

Meet the Boss

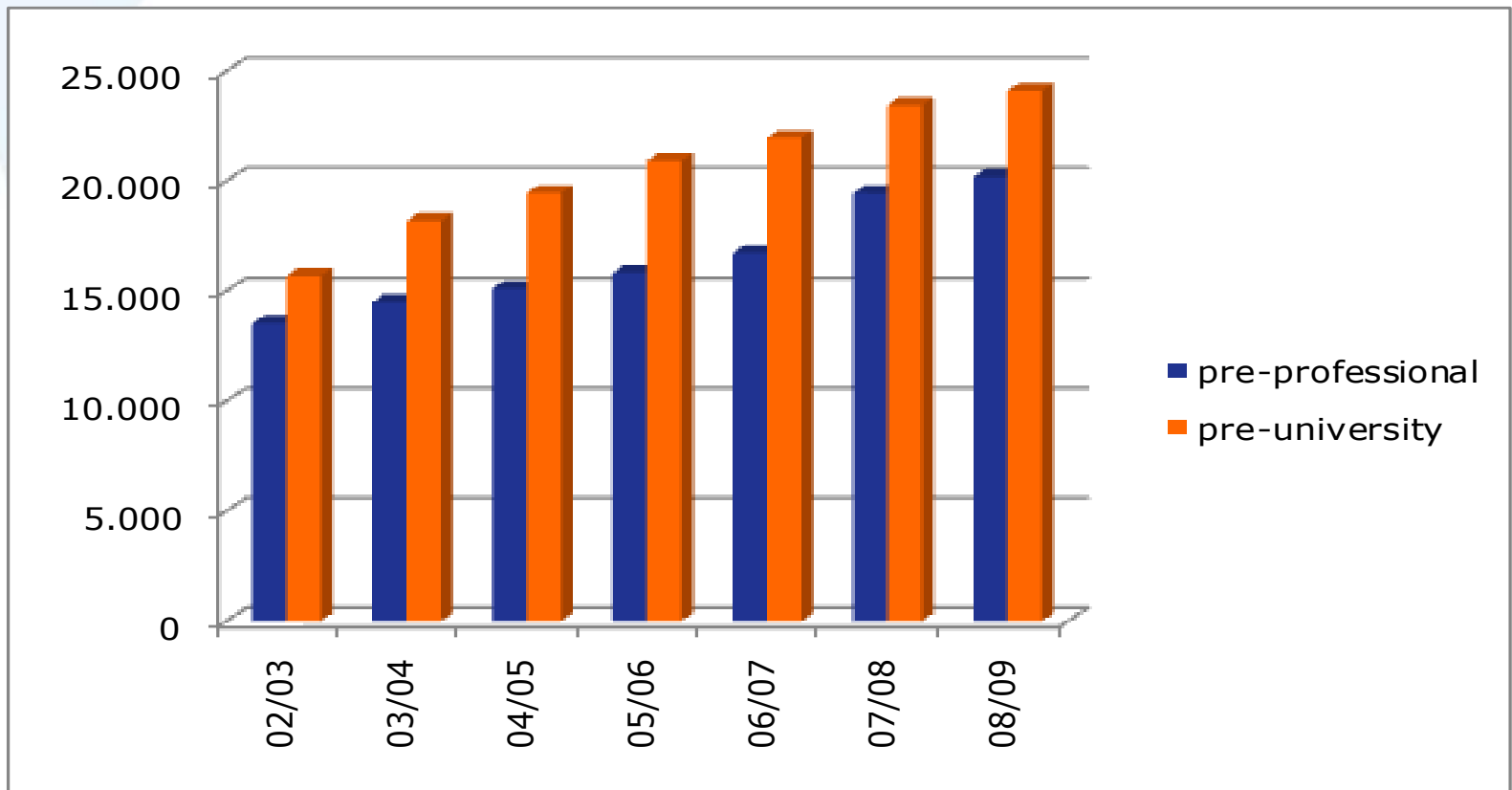
Career Day

Jet-Net – criteria for succes

Structural effort by Jet-Net company and Jet-Net school:

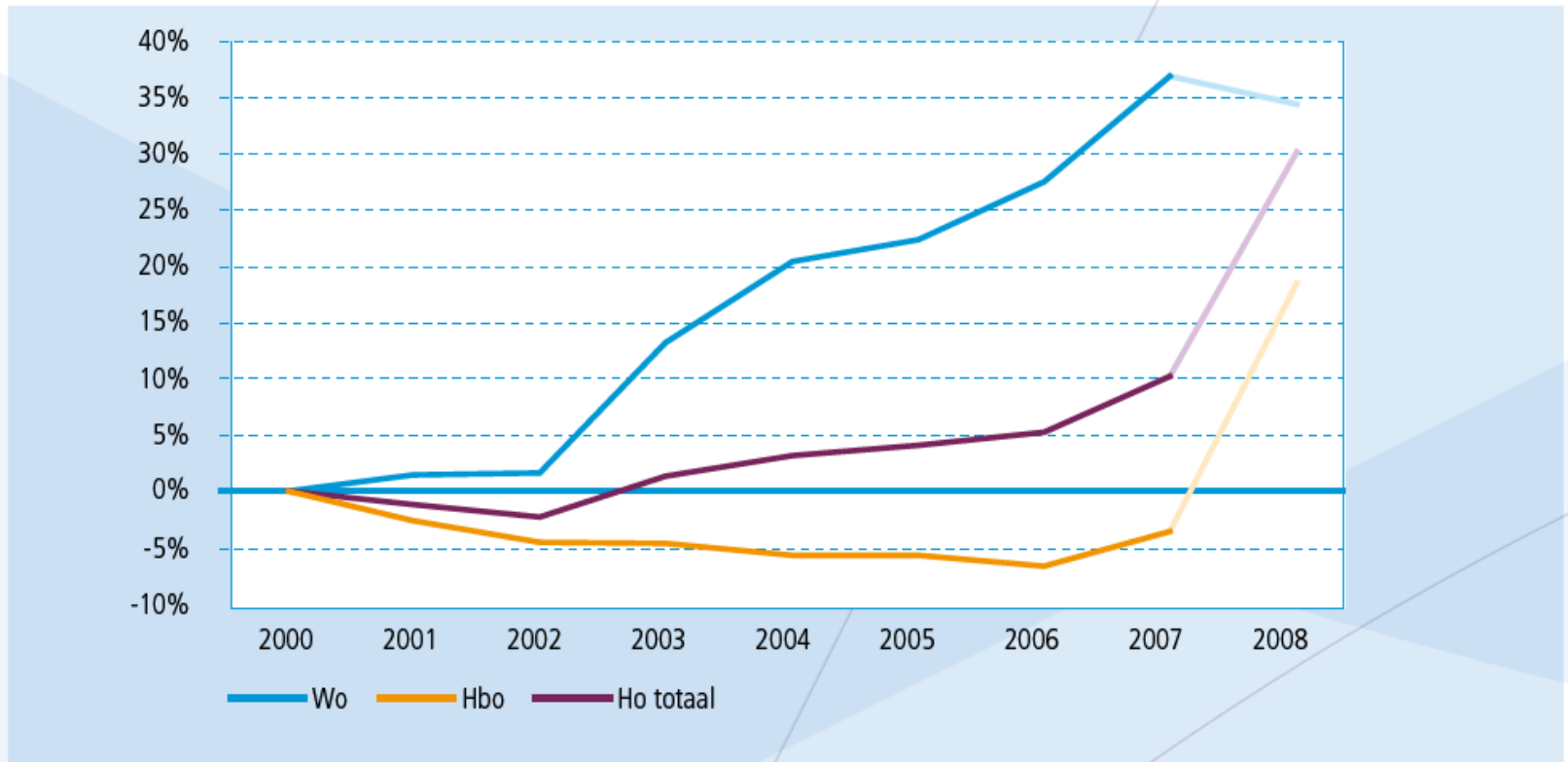
- **Commitment from management**
 - **Staff and time available**
 - **active input / taking initiative**
 - **enthusiasm / broad basis**
 - **professional procedures / curriculum**
 - **learning through experience!**
-
- **increase enrolment in STEM-streams**

Development of the choice of STEM-curriculum by pupils secondary schools (year 4)



Higher education enrolment results

Figuur 12 Groei instroom hoger onderwijs



III 2011-2016

Motives for a new agenda

- **Economic motive**
- **Science & Technology literacy**
- **Transitional motive**

Primary education

Aims

- We can identify talents in children and know how parents, teachers and childcare workers can motivate children to develop them.
- One-third of teachers and childcare workers can apply the findings of the *TalentenKracht* (Talent Development) study to children and to involve parents and childcare providers in the process.
- STEM education and talent development are fixed elements of primary education-level teacher training.

Priorities

1. *TalentenKracht* (Talent Development)
2. Maths and language
3. Excellence

Secondary education

Investment in Science & Technology, investment in talent

Output targets 2016

55% of a cohort sec. education has a STEM-profile (+ 10 %)

60% of that 55% chooses a STEM-study

10% of that cohort: Talent-development program's

Sustaining the approach and results:

- Jet Net
- Technasium
- Chain approach secondary – higher education
- 60% of STEM-teachers in professionalisation, training and up-grading



Want to know more?

www.platformbetatechnik.nl



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Bijlagen

Sectors and programmes

Sector	Programma	participation	additional	Results Nov. 2008
Primary education: elementary schools	VTB	2530 out of 7500 in 2008	Training of: 10000 (future) teachers	85% on track Attitude test
General secondary education: havo/wvo	Universum Programme	180 schools (out of 450) + extra: 150 *following schools	Jet-Net Phd tracks for teachers	+18% at havo and +15% at wvo between 2000 and 2007, large increase girls
(pre) vocational education: vmbo/mbo	Ambition	120 pre-vocational schools Vocational: 27 (out of 60)	vocational training colleges	proportional growth + 9%
Higher education: hbo/wvo	Sprint	All universities (10) and all "university colleges" (18)	Exchange of 800 professors with 400 secondary school teachers	enrolment hbo +9% and university: +26,7%
Labour market	ACT	6 cooperation's of industries with a couple of hundred companies	6 Regional contracts Technet network HRM road mapping	1000 companies

Dutch educational programme

