

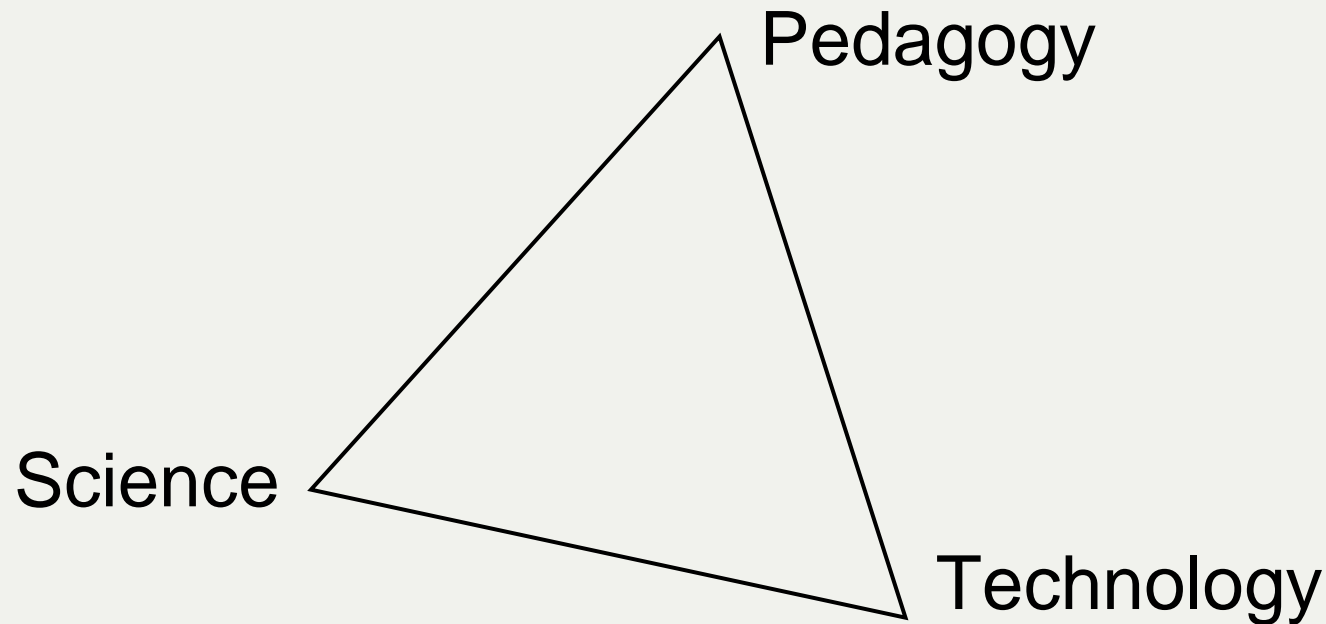
SUPERCOMET 2 Project

Simplicatus AS - Contractor

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Simplicatus AS



Everything should be done as simple
as possible, but not simpler

- Albert Einstein

Simplicatus AS – people and places

- 2000 – 2002
 - Founded by professor K. Fossheim and V. Engstrøm
 - Operated from student desk during physics studies
 - Part-time occupation for founders + 2-3 students
 - VE completed M.Sc. Physics + 1 year teacher training
- 2002 – 2006
 - Head office at NTNU Incubator in Trondheim
 - Warehouse at Strømmen since January 2003
 - 6-12 part time employees (eq. 2-4 full time positions)
- June 2006 –
 - Office and Warehouse at Strømmen
 - 2 full time, 3-4 part time employees

Simplicatus AS – physics projects

- Superconductivity online (Norw. only), 2000-2001
 - Funded by Norwegian authorities, € 25 000
 - Continuation of previous project 1998-2000 funded by NTNU and professor K. Fossheim that led to Simplicatus
- SUPERCOMET, 2001-2004
 - Funded by LdV, € 488 163, 8(7) partners in 4 countries
- Science Troubadours, 2002-2004
 - Funded by LdV, € 540 000, ~30 partners in 12 countries
 - Cancelled before launch due to withdrawal of key partners
- SUPERCOMET 2, 2004-2007
 - Funded by LdV, € 405 238, 40 partners in 15 countries
 - Norwegian National Centre for Science Education

Simplicatus AS – mathematics projects

- Mathematical Toolbox, 2001-
 - National Centre for Mathematics Education in Norway
 - National Organization for Mathematics Teachers
 - Funded by Norwegian authorities through SkatteFUNN refunds based on incurred costs ~ € 30-80 000 per year
 - Annual sales revenues of € 250 000 in 2003, 2004, 2005
 - Kits of manipulative equipment with teacher guides
 - Marketing 7 kits for primary and lower secondary school
 - Currently developing 4 kits for upper secondary school
 - National Centre for Mathematics Education in Sweden
- Family mathematics, 2006-
 - National Centre for Mathematics Education in Norway
 - 7 small kits for each year 1-7 in primary school

Simplicatus AS – technology projects

- Astrofestival, 2001-
 - Annual event at University of Oslo, ~10 000 visitors
 - Lectures for ~200 people 2001, 2002, 2003 about SETI
 - Lecture 2006 about “The Science of Star Wars”
- Technobag, 2006-
 - Funded by Norwegian Organisation of Engineers, € 12 000
 - Kits of manipulative materials for new Technology topic
 - Schoolbook published by Damm, a large Norw. publisher
 - We aim to go from prototypes to commercial production

SUPERCONductivity Multimedia Educational Tool, Phase 2

Project rationale

GIREP Workshop in Udine, 2003:

“There is a need for teachers to improve their approach to teaching physics so that recent and relevant scientific knowledge is taught to students in a highly motivating way. Abstract physics must give way to physics in context for most, whilst at the same time preparing others for higher education in physics which may be of an abstract approach. Tools and methods must be offered to students rather than answers to questions that have not been asked.”

GIREP: International Research Group on Physics Teaching
(Groupe International de Recherche sur l'Enseignement de la Physique)

Project overview

Aims from Full Proposal

- Further develop the teaching and learning materials from SUPERCOMET
 - Teacher Seminar
 - Teacher Guide
 - Computer Application with e-modules
- Translate, adapt and disseminate these materials in a large number of European countries
- Carry out classroom testing in all partner countries

Duration Nov. 2004 – Nov. 2007

Budget € 547 619 (LdV funding € 405 238)

Partners 15 universities, 24 upper secondary schools, 1 SME

Deliverables – full proposal

Teacher Seminar
Computer Application
Teacher Guide
Classroom Posters
Intranet
Extranet

Using ICT tools and superconductivity
E-modules with animations ++
Learning activities, background info
Popularizing superconductivity
Project management tool
Dissemination, public information

Deliverables – current project

Teacher Seminar
Computer Application
Teacher Guide
Classroom Posters
Intranet
Extranet
Hands-on Kits
Online Community

Modelling, ICT tools and supercond.
E-modules with animations ++
Learning activities, background info
Popularizing superconductivity
Project management tool
Dissemination, public information
Selected experimental equipment
Networking for physics teachers

Dissemination

- www.supercomet.no
- 24 Partner schools (in 15 partner countries)
- ~50 additional testing schools
- National Centre for Science Education (Norway)
- GIREP Seminar, Ljubljana, Sep. 2005, 14 part.
- MPTL-10, Berlin, Oct. 2005, 7 participants
- GIREP Conference, Amsterdam, Aug. 2006, 18 part.
- MPTL-11, Szeged, Sep. 2006, 4 participants
- Papers and presentations at national conferences

GIREP: International Research Group on Physics Teaching

MPTL: Multimedia in Physics Teaching and Learning – International Workshop series

Workgroups – 1

WG 1: Testing and evaluation, Equal opportunities

IoE, Rouse, Ostrava, Murcia, Lisbon, NSNO, Simplicatus

WG 2A: Teacher seminar

Antwerp, Loughborough, Graz, NSNO, Munich, Simplicatus

WG 2B: Teacher guide

Graz, Munich, Ludwigsburg, Loughborough, NSNO, Simplicatus

WG 2C: Hands-on kit hi-tech (superconductivity)

Loughborough, Antwerp, Munich, Udine, PAP, Simplicatus

WG 2D: Hands-on kit low-tech (electromagnetism)

PAP, Antwerp, Ostrava, Lille, Daugavpils, Simplicatus

WG 2E: Videos + photos (for seminar, guide, e-modules)

Lille, PAP, Loughborough, Simplicatus

Workgroups – 2

WG 3A: New e-module “Applications of superconductivity”

Ludwigsburg, Munich, Udine, AMSTEL, Simplicatus

WG 3B: New e-module “Superconducting materials”

Simplicatus, Rouse, Daugavpils, Loughborough,

WG 3C: Revise e-module “History of superconductivity”

PAP, Simplicatus

WG 4A: Empowering teachers: Simulations

Murcia, AMSTEL, Lisbon, IoE, Simplicatus

WG 4B: Empowering teachers: Online community

Timsoft, IoE, Simplicatus

WG 5: Dissemination – presentations, reference groups, curriculum

Simplicatus, all partners

Budget – full proposal vs. consolidated

	Full proposal	Consolidated	LdV funding
A. Staff	€ 432 377	€ 300 952	€ 185 238
B. Operating	€ 140 000	€ 140 000	€ 140 000
B1. Travel	€ 80 000	€ 80 000	€ 80 000
B2. ICT	€ 20 000	€ 20 000	€ 20 000
B3. Production	€ 30 000	€ 30 000	€ 30 000
B4. Overhead	€ 26 667	€ 26 667	€ 0
B5. Other	€ 10 000	€ 10 000	€ 10 000
C. Subcontracting	€ 80 000	€ 80 000	€ 80 000
TOTAL	€ 679 044	€ 547 619	€ 405 238

Overall budget cut:	$€ 131\,425 / € 679\,044 = 19,3\%$ (to € 547 619)
Staff budget cut:	$€ 131\,425 / € 432\,377 = 30,4\%$ (to € 300 952)
Overall funding cut:	$€ 94\,762 / € 500\,000 = 18,9\%$ (to € 405 238)
Staff funding cut:	$€ 94\,762 / € 280\,900 = 33,7\%$ (to € 185 238)
Staff funding as proposed:	$€ 280\,900 / € 432\,377 = 65,0\%$ (35,0% "free work")
Staff funding after cut*:	$€ 185\,238 / € 432\,377 = 42,8\%$ (57,2% "free work")

* With unchanged workload from full proposal

Summary

- We applied for EU funding because Norwegian funding for such development projects was insufficient at the time
- Combining EU (LdV) and Norwegian SkatteFUNN funding with sales revenues has been essential for our cash flow, we could not have done it the way we did it without either one
- Severe staff budget cut for SC2 gave us a difficult choice – decline funding and project, or accept and force partners to work “for free” in order to achieve project goals
- We would appreciate being trusted to make the most of the funding, like in this case where the project discovered a need for deliverables not mentioned in the full proposal
- A practical wish: To get a PDF of the full proposal in order to copy/paste from it for later reporting – now we have to type in all quotes from the paper printout...