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Dissemination

Final Report

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*The Education, Audiovisual and Culture
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1 Introduction

Purpose of the document is to present all the dissemination events and activities during the Science Center to Go –project years 2010 - 2011. This report will response also to the question of evaluation and efficient of the project. Has there been enough of opportunities to spread out the results? Has people got all possible information? Dissemination is a very important part of the whole project and its effectiveness we cannot underline enough.

Science Center to Go was a project which developed a suitcase with five miniatures. These miniatures were/are used as an informal learning tool. With the equipments of the suitcase one can see something invisible. This innovative tool is totally new and gives a new learning method to the schools, teachers and students. Always when something new is developed it is good to tell about it as larger group as possible.

Dissemination is a very important part of the successful project. Dissemination can be very diversity and it can happen in local, national or international level. Presentation, a poster, an article, a workshop or something else can be a very efficient way of presenting the project. In this project we will show the dissemination activity in the Science Center to Go –project (Sctg) through the partners (Heureka the Finnish Science Centre, University of Helsinki (UNIHE), Fraunhofer Institute (FIT), Univeristy of Bayreuth (UBT), University of Barcelona (UB), Cluj County Teacher Training Centre (CCD Cluj), Ellinogermaniki Agogi (EA), Insitut of Communications and Computer Systems (ICCS), University of Växjö (LNU) and Centre for European Research (CER)). In the Annex can be found lots of photos and examples of posters, news paper articles and press releases.

2 Dissemination in the Science Center to Go

In the proposal dissemination was described through the objectives. The objectives were:

- a) **Dissemination of innovative methodological results** to school and university networks, teacher communities, science museums networks and educational academics, through their presentation at international and national scientific journals and conferences
- b) **Dissemination of the project results to political, professional and social decision makers** so that they can stimulate their transfer into policies development
- c) **Setting up an online point of reference for the project results**, where all interested actors can find information about the project and its achievements, even after the completion of the project.

With the help of these objectives partners first planned well what kind of events and activities would be the best way of tell everybody what the project is doing or what partners have done. We decided that we will concentrate especially to the events and activities shown below:

1) Education

Courses

Conferences, symposiums, workshops etc., when teaching, presenting and so on

2) Events (when participating)

- Conferences
- Symposiums, fairs, seminars and workshops
- Posters, leaflets, brochures
- 3) Other options for dissemination
 - Teachers magazines
 - Newspapers
 - Journals and articles
 - Television, radio etc.
 - Internet, online-news etc.

Task was to disseminate the project as much as possible. Project had to evaluate how well the objectives were reached. In the table 1 shows the schedule of these deliverables.

Table 1. Schedule of the deliverables in the Science Center to Go –project.

Title	Deliverable Date	Description
D6.1 Dissemination Plan	30 th of April 2010	The dissemination plan will describe the relevant partner's responsibilities, dissemination activities description and timetable, along with the dissemination potential of the expected results from the consortium partners. mutual cooperation between the strategic partners will be arranged and potential strategic alliances will also be identified. This plan will include: the identification of the project's audience & strategic objectives, the dissemination/publicity tools and activities.
D6.2 Dissemination Report (interim)	1 st of January 2011	The interim valorisation report will include the progress of dissemination activities, the results of the dissemination activities (such as publications and presentations) along with necessary correcting modifications to the dissemination plan in order to maximize its outreach and efficiency.
D6.4 Dissemination Event	1 st of December 2011	This deliverable corresponds to the organization of the project's closing conference where the final results will be presented to the wider educational community.
D6.3 Dissemination Report (final)	30 th of December 2011	Deliverable D6.3 will provide information about the overall progress of dissemination activities and the results of these activities (such as publications and presentations)

When the project is going well people likes to disseminate. During the two years project has reached over 6 600 people all over the Europe. If we count also the webpages and online news we can easily say that project has reached thousands of people in the whole World.

3 Dissemination events during the Science Center to Go -project

3.1 Dissemination during the year 2010

Even the first year of the project is always more or less for the planning and developing, in the Science center to go –project there were almost 40 activities. Through these events partners caught almost 1 200 people. There were for examples conferences, presentations, workshops, seminars and educational courses. More detailed information can be found from Table 2.

Table 2. Science Center to Go activities, year 2010.

Partner	Events/activities (Event's name, city, country: add the internet link if possible)	Schedule (Date)	Type of activity <i>*Attention</i>	Level Local/ National/In ternational	Participants (How many people and from which profession took part of this event)	Workload or short description of the activity
	Spring and Summer 2010					
UNIHE+Heureka	The Science and Technology-event at the University of Helsinki, Finland	16 th of April 2010	Workshop	National	average 40 teachers and researches	Jani Koivula, Hannu Salmi ja Kati Tyystjärvi
	An initiative of the City Council of Vantaa, Finland	April 2010		Local and national	average 30 decision makers	Kati Tyystjärvi
	The Science Day, University of Helsinki, Finland	17 th of May 2010	Seminar: Presentation	National	average 30 researches and teachers	Hannu Salmi and Arja Kaasinen
	Our dissemination event were published in the Luma-online news: http://www.helsinki.fi/luma/english/index.shtml	May 2010	Publication: Online-news	National and International		Arja Kaasinen
FIT	6 Demonstrations to Fraunhofer industry partners (Lang AG, 2x Bayer AG, ALHO, KAUTEX, Texas Instruments)	May to November	Live demonstration	National	Average 4 attendees	Hagen Buchholz
	3 Demonstrations to Fraunhofer research partners (Töpel from Bundesarbeitskreises Lernen mit Notebooks, Zach Toups from Texas A&M University, Holger Dambeck from Spiegel Online Wissenschaftsredaktion)	May to November	Live demonstration and discussion	International	Average 2	Hagen Buchholz
	SCeTGo@ Hands on Science 2010	July 25th – 31	Conference workshop	International	Approximately	Hagen

	Rethymnon, Greece	th		al	40	Buchholz
UB	University of Barcelona, Faculty of Pedagogy of UB – Campus Mundet	May 11 at 12:30	Seminar	Local	11 researchers (i.e. University profile)	Anna Trifonova, Mario Brajas
	Future Learning website http://www.ub.edu/euelearning/projects.html	Published in February 2010	Active projects descriptions	International	164 visits in 2010 by Dec. 15, 2010	Mario Barajas, Anna Trifonova
	Future Learning website http://www.ub.edu/euelearning/news13.html	Published on March 2, 2010	Website News	International	116 visits by Dec. 15, 2010	Mario Barajas, Anna Trifonova
	Future Learning website http://www.ub.edu/euelearning/news16.html	Published on May 11, 2010	Website News	International	113 visits by Dec. 15, 2010	Mario Barajas, Anna Trifonova
UBT	Publication in UBT-magazine (New from the univeristy of Bayreuth), Germany	June 2010	Publication	National	Accessible to everyone (German-speaking); esp. interesting for university members	Barbara Meissner, Franz Bogner
	The Annual meeting of leaders of biology education chairs in Bavaria, Germany	July 2010	Annual meeting, presentation about SCtGo	National	About 20	Barbara Meissner, Franz Bogner
CCD CLUJ	Website www.ccdcluj.ro , Romania			National		
	Preuniversitaria Symposium, Romania	March 20th, 2010	Symposium: Presentation	National	147 teachers from Romania	Dorina Kudor, Mihaela Rasinar
	Preuniversitaria Symposium, Romania	Spring 2010	Symposium's website news	National		Dorina Kudor, Mihaela Rasinar
	The Science Festival, Cluj-Napoca, Romania	June 4 th , 2010	Presentation	National	25 physics teachers from Romania	Dorina Kudor, Mihaela Rasinar
	Methodological activities developed with the continuous training responsables of Cluj county, Romania	June 1 st -8 th , 2010	Presentation	National	68	Dorina Kudor, Mihaela Rasinar
ICCS	No activity					
EA	Ellinogermaniki Agogi Teachers Introduction to SCeTGo, Pallini Greece	June 1 st -4 th , 2010	Introduction to SCeTGo for future scenario development	Local	6 physics teachers of Ellinogermaniki Agogi	Angelos Lazoudis
LNU	No activity					
CER	No activity					

Total spring and summer 2010	19 events		11 seminar/conference/presentations/demonstrations/workshops, 6 publication/articles/press releases/internet pages etc.	15 local or national, 4 international	average 423 teachers, researchers, decision makers etc. has got information from SCTG-project + webpages	
Autumn 2010						
UNIHE+Heureka	NSCF-conference in Heureka, Finland	16-17 th of September 2010	Conference: Presentation and workshop, 1 poster	National and International	average 100 teachers, researchers and science center pedagogies & experts	Hannu Salmi, Jani Koivula and Arja Kaasinen
	Fibonacci-project meeting in Bayreuth Germany	21-22 th of September 2010	Project conference: Presentation	International	average 200 teachers, researchers and administrators	Hannu Salmi and Arja Kaasinen
	STEP-course, Heureka, Finland	11 th of October 2010	Education: Course	International	average 15 teacher students	Hannu Salmi and Jani Koivula
	One day Interactive Science Learning course to kindergarten teacher students from University of Helsinki, Department of Teacher Education in Heureka, Finland	19 th of October 2010	Education: Course	Local	average 50 students	Hannu Salmi, Jani Koivula and Arja Kaasinen
	University of Helsinki: webpages: http://blogs.helsinki.fi/tiedeakeskuspedagogiikka/tutkimushankkeet/sctg/	November 2010	Webpages	International		Hannu Salmi and Arja Kaasinen
	Opening ceremony: Research centre of didaktik, University of Helsinki, Department of Teacher education	18 th of November 2010	Seminar presentation	Local	average 40 university teachers, researchers and university administrations	Arja Kaasinen
	Two days Interactive Science Learning course to primary school teacher students from University of Helsinki, Department of Teacher Education in Heureka, Finland	25-26 th of November 2010	Education: Course	Local	average 120 students	Hannu Salmi, Jani Koivula and Arja Kaasinen
	Methodology course in the University of Helsinki, Finland	15 th of September to 15 th of December 2010	Education: Course	Local	15 students	Arja Kaasinen

FIT	Demonstration event to a deligation of Kwangwoon Universtiy	September 28th	Demonstration	International	Approximately 12	Hagen Buchholz
	Workshop: Expertentagung E-learning in der Schule und der Lehrerbildung	September 28th	Presentation	National	N/A	Fraunhofer FIT
UB	Presentation of the SCeTGo project at EC-TEL 2010	September 30, 2010	Spanish track – a round table within the main Conference	National	20 researchers	Mario Baraja
	SCeTGo brochure to the EC-TEL 2010	September 28 – October 1, 2010	Conference	International	50 brochures distributed	Mario Barajas, Anna Trifonova
	Future Learning website http://www.ub.edu/euel/earning/news23.html	Published on October 2, 2010	Website News	International	56 visits by Dec. 15, 2010	Mario Barajas, Anna Trifonova
	Description of SCeTGo for the GREAV quality research group	Autumn 2010	Website description	International	N/A	Mario Barajas, Anna Trifonova
UBT	No activity					
CCDCLUJ	The Science and Technology week	November 12 th , 2010	One day SCeTGo activity	National	56 physics teachers and students	Dorina Kudor, Mihaela Rasinar
ICCS	No activity					
EA	SciCafe, Eugenides Foundation	December 17 th , 2010	Demonstration	National	20 physics teachers	Angelos Lazoudis, Sofoklis Sotiriou
	Learning Conference University of Mauritius, Mauritius http://thelearner.com/conference-2011/	July 5th-8th, 2011	Conference (an abstract was accepted and a paper will be submitted) Abstract: http://111.cgpublisher.com/proposals/270	International		Angelos Lazoudis
LNU	No activity					
CER	No activity					
Total Autumn 2010	16 activities		9 seminar/conference/presentations/demonstrations/workshops, 4 educational courses, 5 publication/articles/press releases/internet pages etc.	6 local or national, 10 international	average 698 students, teachers, researchers and science center experts has got information from SCTG-project + webpages	

<i>TOTAL year 2010</i>	<i>35 activities</i>		18 seminar/conference/ presentations/demonstrations/workshops, 4 educational courses, 9 publication/articles/press releases/internet pages etc.	7 local, 14 national, 14 international	<i>1 121 students, teachers, researchers and science center experts has got information from SCTG- project + webpages</i>	
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***Attention** Type of activity is classified in a following way:

- 1) Education
 - Courses
 - Conferences, symposiums, workshops etc., when teaching, presenting and so on
- 2) Events (when participating)
 - Conferences
 - Symposiums, fairs, seminars and workshops
 - Posters, leaflets, brochures
- 3) Other options for dissemination
 - Teachers magazines
 - Newspapers
 - Journals and articles
 - Television, radio etc.
 - Internet, online-news etc.

3.2 Dissemination during the year 2011

Year 2011 was for the many partners the main dissemination year. The suitcase prototype was ready and all the partners were able to present the result to the people. During the year 2011 almost 5 000 people got information about Science Center to go –project. Table 3 shows all the dissemination activities during the year 2011.

Table 3. Science Center to Go activities, year 2011.

Partner	Events/activities (Event's name, city, country: add the internet link if possible)	Schedule (Date)	Type of activity *Attention	Level Local/National/International	Participants (How many people and from which profession took part of this event)	Workload or short description of the activity
Spring and summer 2011						
UNIHE+Heureka	Methodology course in the University of Helsinki	from January to May 2011	Education	Local	average 15 students	
	Science Circus	from January to May 2011	Education	National	average 1000 students and pupils	
	Symposium of didaktik	February 2011	Education	National	average 500 teachers and researchers	
	The Science Day	17 th of May 2011	Seminar/conference	National	average 50 teachers and researchers	
	Scientix, Bryssel, Belgium	5 th -8 th of 2011	Conference	International	ca 400 participants	
	ECSITE, Varsova, Poland	25 th of May 2011	Conference	International	15 science center workers	

ICCS	Science course in the school of Electrical and Computer Engineering of National Technical University of Athens	from January to May 2011	Mixed education, validation, dissemination	Local	average 10 graduates	
	Science course in the school of Electrical and Computer Engineering of National Technical University of Athens	from January to May 2011	Mixed education, validation, dissemination	Local	average 100 graduates	
	Science course in the school of applied mathematical and physical sciences of National Technical University of Athens	from January to May 2011	Mixed education, validation, dissemination	local	average 50 graduates	
	EDEN conference	EA, 15-16 January	Workshop / conference	National/ international	Average 50 teachers and researchers	
	Summer School	July 2011	Workshop/presentation	National and International	Average 60 teachers and researchers	M. Gargalakos
	Science-Society Conference	August 2011, Washington DC, USA	Presentation	International	-	Consortium members, participants to be decided
	National Technical University of Athens, Faculty of Electrical Engineering, Athens, Greece	23/05/11	Course-special lesson	Local	25 students of the Faculty	Mixed dissemination /evaluation event using the Young's experiments miniature*

	Brussels, Belgium	8/5/11	SCIENTIX conference	International	Diverse audience of 100 participants	Participation to the project's presentation (special booth). Conference presentation given by one of ICCS members
	Pathway Summer school, Crete, Greece	1 st week of July	Summer school/workshop	International	30 people, most of them were teachers	45 minutes presentation of the project and demonstration of the SCTGO suitcase by FIT. EA and UBT partners were also present
UBT	No activity					
UB	Series (min. 3) of demonstrations, UB, Faculty of Pedagogy, Department of Didactics of Maths and Experimental Science	May 2011	Demonstration, validation, dissemination	Local / National	Average 20 per event Profile: university teaching staff, university researchers and PhD students, pre-service teachers (undergraduate students)	
	Conference DIM-Espiral	March 25	Symposiums	National	250+	Symposium DIM-Espiral 2011, focus on Aulas 1×1 Web 2.0 Mundos virtuales Realidad Aumentada
	Visionary Workshop, Barcelona	May 16	Education	Local	8	Workshop on IBSE for primary and secondary school teachers
	IBSE demonstration and hands-on, Barcelona	May 17	Education	Local	16	workshop devoted to future experimental science with Master's students
	Visionary Workshop, Barcelona	May 24	Education	Local	7	Workshop on IBSE for primary and secondary school teachers

	News about SCeTGo related event http://www.uib.edu/euelearning/news32.html	May	Internet	International	44 (by Dec 9)	FutureLearning news entry en English
FIT	SCeTGo@ Presentation to human interaction group HUMTEC of RWTH Aachen	January 28th	Presentation, Live Demonstration, Discussion	National	8	Hagen Buchholz
	SCeTGo@ Generalanzeiger Bonn	February 4th	Newspaper article	National	Printed 76.906 times	Fraunhofer FIT
	Webpage in German and English	April to December	Internet	International	N/A	Hagen Buchholz
	Pressreleases and announcement at the Fraunhofer FIT - Main Webpage	April 11th	Pressrelease	National/International	N/A	Fraunhofer FIT
	published Science Center Video On YouTube	April 12 th	Internet	International	Viewed 900 times	Buchholz & Brosda
	Girlsday Bundeskanzleramt in Berlin	April 13 th	demonstration, workshop	National	40	Fraunhofer FIT, Nation wide press attendance in major television and newspaper channels of Germany
	Science Center To Go presentation to a Korean delegation	April 15 th	demonstration	International	6	Participants: a Korean delegation including a deputy director of Ministry of Knowledge Economy, Ms. Gayoung Lee and the European Representative and Principal Researcher KIAT EU Office Bryan(Sungjin) Baik.
	Report about Science Center To Go at the Innovisions magazine	April 27 th	Online Article	National	-	Fraunhofer FIT

	Science Center To Go Presentation at the SCIENTIX	May 6 th to May 8 th	Presentation and demonstration	International	Approximately 250	SCeTGo Consortium
	Fraunhofer FIT Press release	May 12 th	Pressrelease	National	-	Fraunhofer FIT
	Center To Go Presentation for the state minister for Innovation, Science and Research	May 25 th	Demonstration	National	15 + press	Brosda & Buchholz
	Presentation at regional funding fair at Science Center Oddyseum in Cologne	May	Demonstration	National	20	Hagen Buchholz
EA	Designing the School of Tomorrow Conference, Ellinogermaniki Agogi, Pallini, Greece www.schooloftomorrow.gr	January 15 th - 16 th , 2011	Workshop	National	More than 100 teachers and 200 students	Angelos Lazoudis, Sofoklis Sotiriou
	Educational Seminar organized by the Greek Physical Society, Eretria, Greece	January 28 th - 31 st , 2011	Workshop	National	More than 100 Physics Teachers and Science educators	Angelos Lazoudis, Sofoklis Sotiriou
	Best Practices in Inquiry-Based Science Education Summer School, Heraklion, Greece	July 3 rd -8 th , 2011	Demonstration & Workshop	International	About 50 Science Teachers across Europe	Angelos Lazoudis
LNU	Tidningen Näringsliv www.naringsliv.se	Feb 1 st	Magazine	National	Distributed to 30000 readers. Accessible for 2 million people travelling via	Magazine for the industry and the private sector.

					airport, train or bus.	
	Course in ICT, LNU, Sweden	March 19 th	Course in ICT for active teachers.	National	40	Presentation of SCeTGo
	NO- Biennalen, Halmstad, Sweden http://nobiennal.nu/	April 11-12 th	Conference	National	300	National conference for science teachers.
	NO- Biennalen, Halmstad, Sweden	April 11 th	Workshop	National	26	Hands-on workshop with science teachers
	CeLeKT Website http://www.celekt.nu/tabloid/show/99	April 25 th	Internet	National	-	News about the SCeTGo project
	School Trial, Gröndalskolan, Värnamo, Sweden	May 18 th	Workshop	Local	20	Lesson with 9 th grade students.
	School Trial, Arabyskolan, Växjö, Sweden	May 24 th	Workshop	Local	17	Lesson with 9 th grade students.
	School Trial, Arabyskolan, Växjö, Sweden	May 25 th	Workshop	Local	17	Lesson with 9 th grade students.
	Science competition, Växjö, Sweden	May 26 th	Fair	National	300	Hands-on presentation for 8 th grade students participating in a science competition.
	School Trial, Teleborg Centrum Skola, Växjö, Sweden	May 31 st	Workshop	Local	25	Lesson with 9 th grade students.
	Smålandsposten	May 26 th	Newspaper	Local	50000 readers	One page article about our trial at Araby school on may 24th
	Conference, Båstad, Sweden	June 14 th	Conference	Local	80	Presentation of SCeTGO at a conference for School of Computer Science, Physics and Mathematics (Linnaeus University)
CER	Inventorium Education Symposium Dublin	28 th of March 2011	Symposium presentation	National	120	Introduction and evaluation of Scetgo resources

	Ysgol Fraira Staff development	10 th of May 2011	Workshop	Local Schools	8	Introduction and evaluation of Scetgo resources
	IoP Wales 4 th National Teachers Conference	21 st of June 2011	Demonstration stand at conference	National	100 +	Introduction and evaluation of Scetgo resources
CCDCLUJ	Press release	For each important event	Press release/publication	Local/national		
	Press conference	For each important event	Press release/publication	Local/national		
	News letter	For each important event	New letter/publication	Local/national		
	Up-dating the special section on the web site: www.ccdcluj.ro	For each important event	Webpage	Local/national		
	Workshop at Technical University of Cluj-Napoca: "Fundamental Sciences - Promoters of Progress in Materials Engineering"	10 th February, 2011	Education - workshop	Local level	60	The aim of the activity was to promote the results of the scientific investigation activities carried out by the teachers in Cluj county. CCD Cluj presented SCeTGo project: the aims, the results achieved during the piloting activities in 2010 and the expected results for 2011.
	Content of experiments and innovation for teachers and students: "Following Edison's steps. Content of experiments and innovation"	The 26 th of March 2011	Education - workshop	Local level	60	CCD Cluj presented SCeTGo system and the teachers who were involved in piloting the SCeTGo scenarios presented their experience. The activity took place at Colegiul Tehnic de Transporturi- Cluj-Napoca.
	"Preuniversitaria" Symposium	the 19 th of March 2011	Education - symposium	National level	69	The symposium is a scientific activity with the aim to facilitate the exchange of good practice between teachers at preuniversity level. A specific workshop of the symposium was dedicated to the projects implemented in Cluj county and two teachers who participated in SCeTGo piloting activities presented their experience with

						the students in using SceTGo system. Their works were recorded on a CD that was delivered to all the participants at the symposium.
Total spring and summer 2011	58 activities		29 seminar/conference/presentations/demonstrations/workshops, 15 educational courses, 14 publication/articles/press releases/internet pages etc.	48 local or national, 10 international	4 775 teachers /students/researches etc. + press/newspapers and internet readers	
Autumn 2011						
Partner	Events/activities (Event's name, city, country: add the internet link if possible)	Schedule (Date)	Type of activity *Attention	Level Local/National/International	Participants (How many people and from which profession took part of this event)	Workload or short description of the activity
UNIHE+Heureka	News paper interview, Vantaa, Heureka, Finland	August 2011	Interview	National	5	
	Nordic Science Center Foundation NSCF Conference, Reykjavik, Island	23th of September 2011	Conference	International	50 science center workers	
	Using the External Environment of the School – the Fibonacci European Training Session, Helsinki, Finland	10 th – 12 th of October 2011	Conference: presentation and workshop	International	60 educational or science center experts	
	Informal Learning course, Helsinki, Finland	11 th of October 2011	Education course to kinder garden teacher students	National	50 teacher students	
	Informal Learning course, Helsinki, Finland	11 th of October 2011	Education course to international teacher students (STEP)	National/international	20 teacher students	

	Eden conference, Athens, Greece	29 th of October 2011	Conference: presentations and workshop	International	ca 200 participants	
	AR-workshop, Espoo, Finland	14 th of November 2011	Workshop	National/Local	20 Diploma Engineer students	
	AR-workshop, Helsinki, Finland	16 th of November 2011	Workshop	National/Local	20 Physics students	
	SCeTGo-conference, Cluj, Romania	17 th of November 2011	Conference	National	85 teachers of physics	
	Informal Learning course, Vantaa, Finland	23th-24 th of November 2011	Education course to primary teacher students	National	120 teacher students	
	Online Education conference, Berlin, Germany	30 th of November 2011	Conference	International	30 science center workers	
ICCS+EA	Joint-publication to scientific magazine	from September to December 2011	Publication	International	-	Consortium members, participants to be decided
	The Laboratory of Science Teachers Education of Eastern Thessaloniki, Thessaloniki, Greece	September 2011	Workshop	National	30 Science teachers	Angelos Lazoudis
	The Laboratory of Science Teachers Education of Chios, Chios, Greece	October 2011	Workshop	National	40 Science Teachers	Angelos Lazoudis
	The Laboratory of Science Teachers Education of Rodopi, Komotini, Greece	October 2011	Workshop	National	40 Science Teachers	Angelos Lazoudis
	EA , Athens, Greece	29 th of October 2011	Eden Conference	International	Audience of more than 70 people	Participation to the final workshop organised for the SCTGO project. Presentation made by ICCS to the conference session dedicated to augmented reality (The ancestor of

						SCTGO project EXPLOAR was presented by ICCS)
	Hellenic Army Academy, Athens Greece	7 th of November 2011	Academic course	National	30 studnets	Mixed dissemination validation activity (approximately 20 questionnaires were collected) **
	Hellenic Army Academy, Athens, Greece	16 th of November 2011	Two academic courses	National	50 studnets	Mixed dissemination validation activity (approximately 30 questionnaires were collected) **
UBT	German Association of Biology Education hold at Bayreuth University	12 th of September – 16 th of September 2011	Conference	International	About 200	Yelva Larsen, Franz Bogner
	Pathway Consortium meeting in Bayreuth	10 th of October – 12 th of October 2011				
UB	EDEN article	29 th of October 2011	Conference	International		Article “Pedagogic issues and questions from the Science Centre To Go, augmented reality, project implementation”
	News about SCeTGo related event http://www.uib.edu/euelearning/news39.html	1 st of November 2011	Internet	International	53 (by Dec. 09)	FutureLearning news entry en English
	Disctribution of SCeTGo brochures during GACET’11	17th-18 th of November 2011	Conference	International	About 100	100 brochures were printed and made available for the participants
FIT	SCeTGo presentation and workshop of the suitcase at SPICE conference	26th – 29 th of August 2011	Presentation and workshop	National	150 (presentation) + 40 (workshop)	Brosda & Buchholz
	Hands on presentation at National Convention on Science	2 nd of October 2011	Demonstration	National	30	Hagen Buchholz

	Learning in Bayreuth					
	Presentation and Workshop at EDEN Open Classroom conference	27 th – 30 th of October 2011	Presentation and workshop	International	Approximately 150	Consortium, Fraunhofer FIT, Hagen Buchholz
	Demonstration at the E12 convention	28 th of November 2011	Demonstration	National	Approximately 200	Leif Oppermann (Fraunhofer FIT)
LNU	No activity					
CER	Diverse 2011, Dublin	28 th of August 2011	Workshop at conference	International	40	Introduction and evaluation of Scetgo resources
CCD CLUJ	Web groups: cluj_fizica_astonomie, anul_international_astonomiei, isj_fiz_chim, isjcluj_programe_comunitare	January-November 2011	Webpage	Local/National		
	Innovative approaches in teaching science	17 th November 2011	Events - Conferences	Local	81	<u>Plenary session:</u> - Presentation of the educational resources created through the project - Presenting the brochure "Teaching Science Through Augmented reality" <u>Workshop:</u> good practice presented by 2 teachers who implemented SCETGo scenarios
Total Autumn 2011	30 activities		21 seminar/conference/presentations/demonstrations/workshops, 5 educational courses, 4 publication/articles/press releases/internet pages etc.	17 local or national, 13 international	791 + webpage readers	
Total year 2011	88 activities		50 seminar/conference/presentations/demonstrations/workshops, 20 educational courses, 18	65 local or national, 23 international	5566 students, teachers, researchers and science center experts has got information from SCTG-project + thousands or millions of webpage/newspaper or article	

			publication/articles/ press releases/internet pages etc.		readers
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***Attention** Type of activity is classified in a following way:

- 1) Education
 - Courses
 - Conferences, symposiums, workshops etc., when teaching, presenting and so on
- 2) Events (when participating)
 - Conferences
 - Symposiums, fairs, seminars and workshops
 - Posters, leaflets, brochures
- 3) Other options for dissemination
 - Teachers magazines
 - Newspapers
 - Journals and articles
 - Television, radio etc.
 - Internet, online-news etc.

3.3 All the dissemination events, summary

There has been 123 dissemination activities during the years 2010-2011. Almost 7 000 people have got information about the Science Center to Go –project (table 4). If we count all the people who has also read webpages, newspaper articles, posters etc., the sum is much much bigger. We can easily say, that Science Center to Go –project has reached thousands or millions of people all over the world. This is much more than the partners planned. It shows the fact that the project has been both successful and motivated. It has been nice and interesting to tell everybody the results, the suitcase and scenarios. Feeling that this is something new and innovative has been probably one of the key elements. In the Annex is shown lots of photos, screen shots, press releases etc. One picture can tell more than 1000 of words.

Table 4. All the dissemination activities during the years 2010 to 2011.

Partner	Events/activities (Event's name, city, country: add the internet link if possible)	Type of activity *Attention	Level Local/National/International	Participants (How many people and from which profession took part of this event)
TOTAL years 2010-2011	123 activities	68 seminar/conference/presentations/demonstrations/workshops, 24 educational courses, 27 publication/articles/press releases/internet pages etc.	86 local or national, 37 international	6687 students, teachers, researchers and science center experts has got information from SCTG-project + thousands or millions of webpage/newspaper or article readers

***Attention** Type of activity is classified in a following way:

- 1) Education
 - Courses
 - Conferences, symposiums, workshops etc., when teaching, presenting and so on
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- 3) Other options for dissemination
 - Teachers magazines
 - Newspapers
 - Journals and articles
 - Television, radio etc.
 - Internet, online-news etc.

4 Annex – Dissemination Photos

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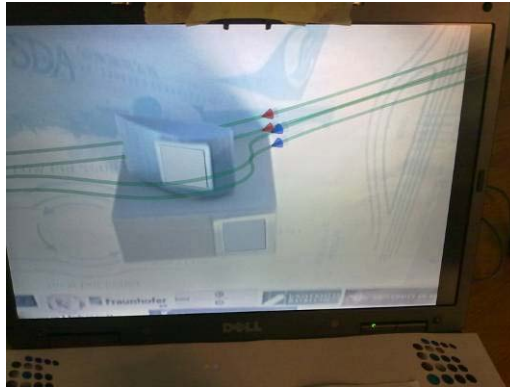
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4.1 Dissemination events by University of Helsinki and Heureka (UNIHE and Heureka)

Mini-wing in use. Miniature workshop in Science-event at University of Helsinki 16th of April 2010. Helsinki, Finland



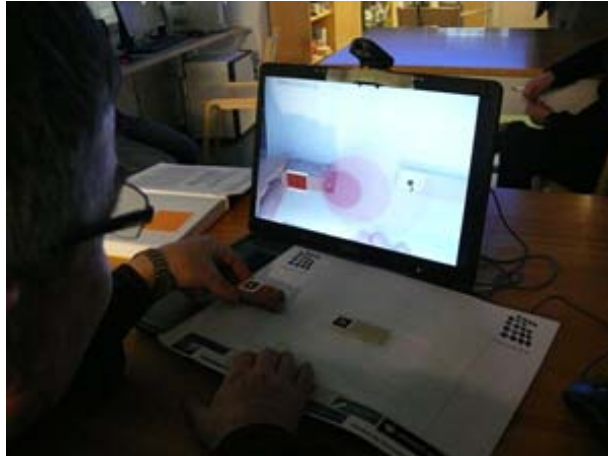
Picture 1. SCeTGo room



Picture 2. Mini-wing in action



Picture 3. Mini-wing in use



Picture 4. Dobbler-effect



Picture 5. SCeTGo presentation by H. Salmi



Picture 6. SCeTGo presentation by H. Salmi



Hannu Salmi presents Augmented Reality in Science Day at the University of Helsinki 17th of May 2010.



Heureka Day 25-26th of December 2010, Finland.

Posters made by Jani Koivula



4.2 Dissemination events by Fraunhofer Institut (FIT)

SCeTGo Events from FIT

SCeTGo@ Hands on Science 2010 July 25-31, Rethymnon, Greece

The project SCeTGo was presented at the Hands on Science 2010 Conference in Crete. The audience mainly science teachers and researchers in educational science.

An overview of the state of the art in Augmented Reality related to learning has been given, with the goal to kick off an inspiring discussion on AR science learning.

September 28th 2010 - Presentation of SCeTGo for a delegation of South Korean Kwangwoon University

The project SCeTGo was presented to a delegation of the South Korean Kwangwoon University (<http://www.kw.ac.kr/en/index.html>) including the president Lee Young Kim, Ph.D. The delegation visited Fraunhofer FIT to foster collaboration between both institutions. As part of the visit an interactive live demonstration of the SCeTGo system was given to the representatives.

Photos (not to be published on the website)



Figure 1. first from left: the president of the University Lee Young Kim, Ph.D



**28th of Sept to 29th of September: Presentation at expert workshop “Expertentagung E-learning in der Schule und der Lehrerbildung“
at the state parliament of Schleswig-Holstein**

SCeTGo was presented as part of a keynote of an expert workshop at the state parliament of Schleswig-Holstein in Kiel. Workshops topic: „Expertentagung E-learning in der Schule und der Lehrerbildung“ and dealt with Title of keynote: „Integrieren und Differenzieren -- Wie wir unsere Lernumgebungen gestalten werden“

The workshop focused on e-learning in school and in teachers' education. The keynote was held by a colleague from Fraunhofer FIT. He spoke about the future of learning environments and incorporated Science Center To Go in his vision.

Workshopwebsite:

http://www.schleswig-holstein.de/IQSH/DE/ITDienste/ITExpertentagung/ITExpertentagung_node.html

The screenshot shows a website for the 'Expertentagung „E-Learning“' organized by the IQSH (Institut für Qualitätsentwicklung an Schulen Schleswig-Holstein). The page features a header with navigation links (ZUM LANDESPORTAL, STARTSEITE, PRESSE, IMPRESSUM, KONTAKT) and a language selector (DE, EN). A search bar is present on the left. The main content area is titled 'Expertentagung „E-Learning“, „E-Learning in der Schule und in der Lehrerbildung“' and includes a large image of a ship. Below the image, there is a detailed text block about the event, followed by links to download PDFs for 'It-Expertentagung' and 'Hotelübersicht', and a link for registration. A 'Kontakt' section on the right provides contact information for Hartmut Karrasch. The footer contains links for 'SEITENÜBERSICHT', 'SEITE EMPFEHLEN', and 'SEITE DRUCKEN'.

Paper

Title: Science Center To Go - A mixed reality learning environment of miniature exhibits

to be published in next "Inspired Science Learning" volume

Authors: Hagen Buchholz, Constantin Brosda, Richard Wetzel {all Fraunhofer FIT}

Abstract: Modern science museums deliver exhibits that involve visitors in sessions of active playful learning. Mixed Reality may additionally be used as a catalyst for science centre exhibits to provide new perspectives and reveal otherwise hidden phenomena. Such sophisticated exhibits might well be qualified for improved learning at school – except they

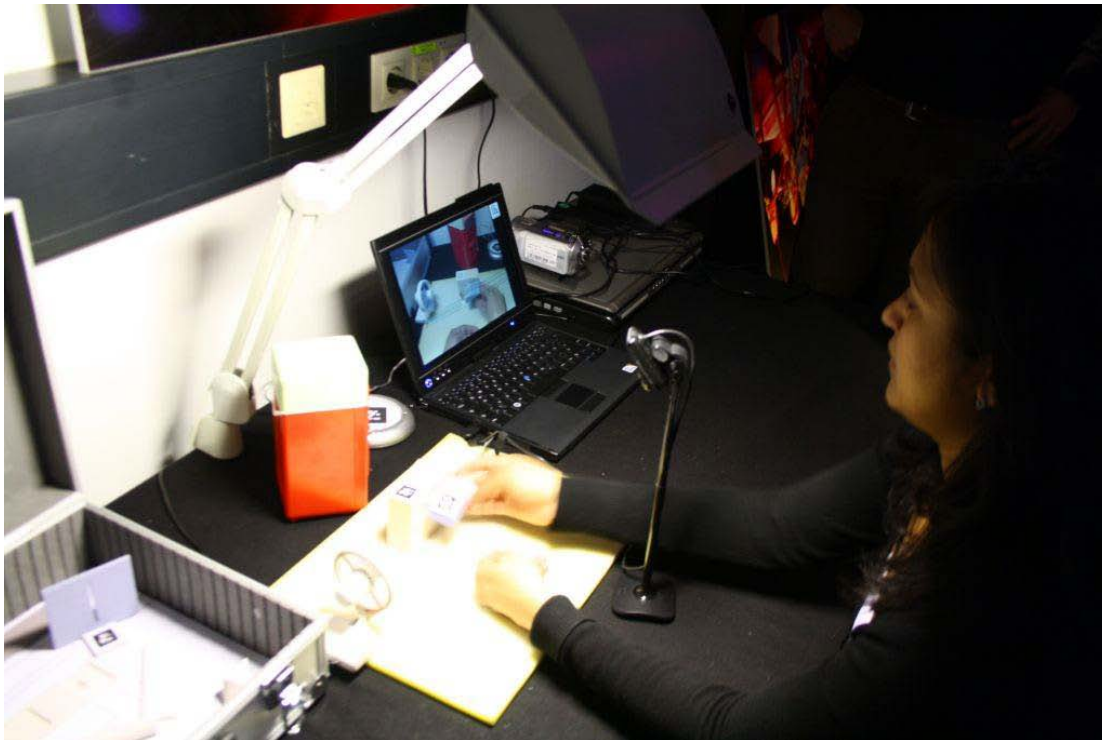
are hardly available outside of science centres. Our approach addresses this challenge by bringing miniaturized Augmented Reality exhibits out of the science centre into schools. The presented miniature exhibits uncouple science centre exhibits from their traditional venue and deliver natural ways of learning whenever and wherever it is desired. Therefore a set of miniature exhibits has been designed with the ambitious goal to meet the requirements of nowadays school curriculums. In this paper a science centre in a suitcase will be presented and discussed offering tailor-made learning experiences augmented through normal computers.

SCeTGo@ Presentation to a human interaction group of HUMTEC of RWTH Aachen 28th of January

The project SCeTGo was presented to the Natural Media & Engineering research group from RWTH Aachen University (http://www.humtec.rwth-aachen.de/index.php?article_id=8&clang=1)

Four scientists of Prof. Mittelberg's team were able to shortly discuss and try out the system.





SCeTGo@ Generalanzeiger Bonn 4th of February

At first of February the Science Center To Go was presented to journalists of Generalanzeiger – a local newspaper. An Article about current work conducted at Fraunhofer FIT was published, including the Science Center To Go.

GENERAL-ANZEIGER | LOKALES | Donnerstag, 3. Februar 2011 | 17

Zukunft in altem Gemäuer

Im Fraunhofer-Institut Schloss Birlinghoven arbeiten Wissenschaftler an Dingen, die Leben und Lernen erleichtern

Von Antonia Clausen

SANKT AUGUSTIN. Zukunft wird in Sankt Augustin gemacht. Genauer: in Birlinghoven. Das dort idyllisch um das Schloss gebaute Fraunhofer Institut ist für Besucher schwer zugänglich. Zu geheim sind viele Forschungsprojekte, und die Auftraggeber aus der Industrie haben ein natürliches Interesse an ihrem bezahlten Recht auf Exklusivität.

Der GA durfte einen Blick hinter die Mauern des Schlosses und in Labore werfen. Nachdem die strenge Eingangskontrolle überwunden war, öffnete Alex Deeg, zuständig für die Öffentlichkeitsarbeit, die Türen zur Welt von morgen. C5, das Institut für Angewandte Informationstechnik, liegt mitten auf dem Campus und ist, wie jeder Meter des Geländes, videobewacht. Würden die Innovationen, die die Wissenschaftler vorstellen, bereits auf dem Markt sein, könnte ein Tag in der Zukunft vielleicht so aussehen:

Fred Futur wird von seiner Firma zu einem Seminar geschickt. Gleich am Eingang zum Veranstaltungsort legt er seine Visitenkarte auf einen Surface-Table. Anhand des vom FIT entwickelten Chip und den entsprechenden Informationen kann er dank des Programms „NetMe“ sehen, wer aus seiner Branche noch vor Ort ist. Die entsprechenden Personen werden ihm angezeigt. Futur legt sie per Fingerbewegung über das Surface in „Kontakt“.

Automatisch erhält er eine E-Mail mit den Kontaktdaten dieser Personen und lässt sie wiederum anschreiben, dass er an einer Kooperation interessiert ist. Im Seminarraum steht ein großer Bildschirm. Der Seminarleiter benutzt weder Maus noch Controller, um Bilder aufzurufen, Grafiken zu vergrößern oder Objekte rotieren zu lassen.

Denn Leif Oppermann entwickelte eine Software, die die Bewegungen der Hände erkennt. Zwei geeignete Handflächen bleiben stopp, mit der Faust kann ich drehen, mit zwei Fäusten werfe ich weg“, erklärt der Entwickler einige der vielen Funktionen. Fred Futur erzählt während der Vorführung, dass es für ihn – nehmen wir an, er ist Architekt – ein neues Portal gibt, entwickelt von der Koppelgruppe des FIT, das umfassende Informationen über Baupläne, Konstruktionspläne, Standorte und Werkstoffe bündelt und darüber hinaus über auszuwählende Widgets das individuelle Lernverhalten des Nutzers optimieren kann. „Sicher wird das meine Arbeit erleichtern“, freut er sich. Vorher hatte er sich die notwendigen Daten mühsam bei unterschiedlichen Portalen zusammen suchen müssen.

Auf dem Weg nach Hause schaltet Futur den LogiAssist ein und bildet sich mit Hilfe einer Audio-Vorlesung fort im Bereich Transport- und Logistik fort – sein nächster Auftraggeber hat in diesem Bereich ein Projekt für ihn und das Lernprogramm genau auf Futurs Bedürfnis zugeschnitten lassen. Am Abend erzählt ihm seine Tochter von spannenden Physikunterricht. Der Lehrer hatte ein „Science-Center to go“ dabei. In diesem Koffer gibt es unter anderem Formen aus Holz, zum Beispiel konische Zylinder und eine Rampe. Alle Objekte sind mit Aufklebern versehen, die dem Computer die Eigenschaften des Objekts mitteilen.

Mittels einer Kamera und eines vom Fraunhofer-Institut entwickelten Programms werden die Bewegungen der Objekte erfasst und gleich die mathematische Formel dazu bereitgestellt. „Für Schüler ist der Versuch wesentlich greifbarer als eine Formel“, erklärt Entwickler Hagen Buchholz. „Sie sehen auch direkt, wie sich die Formel verändert, wenn eine Komponente verändert wird.“ So gar eine kleine Kanone, die virtuelle Elidrennen schießt, die durch einen Doppelspalt müssen, gibt es „to go“. Mehr als 500 Schüler zurupowei testen die Neuerung bereits.

Ein alter Freund von Fred Futur ruft an. Er hat gesundheitliche Probleme und musste sich einem umfassenden Check unterziehen. „Alles in Ordnung. Mit nur einem Tropfen Blut konnte geklärt werden, wie ich auf bestimmte Medikamente reagiere. Außerdem fanden die Ärzte dank der neuen Topo-Scan-Technologie und dem Einzel-Molekül-Scanner in 15 Minuten statt in 15 Stunden eine bestimmte DNA-Veränderung in einer Gewebeprobe.“

Die Entwicklung ist unter anderem Benjamin Greiner vom FIT zu verdanken. „Diese Technologie stellt für Krankenhäuser und Labore eine große Arbeitserleichterung dar“, sagt der Projektleiter aus der Abteilung „Life Science Informatic“.

Fraunhofer Institut

Das Sankt Augustiner Fraunhofer-Institutszentrum Schloss Birlinghoven (BZ) ist eines der größten Informations-Forschungszentren Deutschlands. Knapp 500 Wissenschaftler in drei Instituten und zwei Forschungseinheiten erforschen und entwickeln innovative Lösungen für Wirtschaft und Gesellschaft. Im Institut für angewandte Informationstechnik beschäftigen sich etwa 150 Fachleute unter Leitung von Matthias Järke mit kooperationsystemen, Life Science Informatik und Prozessmanagement.

An Rhein und Sieg

Kommentar

Von GA-Redakteur Bernd Eyermann

Abstruse Pläne

Das Engagement von Bezirksregierung und Schulamt bei der Suche nach einer Lösung für die Klasse 2d der katholischen Grundschule Hennes Wehrstraße, ist anerkennenswert. Und es wäre allen Beteiligten, vor allem den Kindern, zu wünschen, dass nach einer Lösung gefunden wird. Gerade in dem Alter brauchen Kinder eine feste Bezugsperson, die ihnen in der Schule Orientierung gibt. Dass sieben Lehrerinnen in der Klasse unterrichten sollen, ist genauso abstrus wie der Plan, die 2d dauerhaft aufzulösen. Schließlich sollen die Klassen kleiner, nicht größer werden. Wenn Lehrerinnen allerdings darüber klagen, dass sie von Land schlecht versorgt werden und das Gefüge Unterrichtsplan schon zusammenbricht, wenn nur eine Kollegin ausfällt, dann ist Hennes offenbar doch kein Einzelfall, wie es die Bezirksregierung darstellt. Das Land hat die Zeichen der Zeit erkannt, denn auch am Dörmerskindergarten...

Webpage in German and English
German

<http://www.fit.fraunhofer.de/projects/mixed-reality/science-center-togo.html>

Firefox - http://www.fit.fraunhofer.de/projects/mixed-reality/science-center-togo_en.html

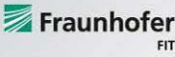
Science Center ToGo

Leesezeichen-Symbolleiste... Wiki FIT BSCW Nachschlagewerke Recherche IPFernsehen Groups Programming Info Diss Zitate Reisen *easyGestures* ukulele Leesezeichen

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Deutsch RSS Print Suche

> Projects > Collaborative Virtual and Augmented Environments > Science Center ToGo



Fraunhofer
FIT

Profile
Business Areas
Projects
Alphabetic order
Cooperation Systems
Mobile Knowledge
User-Oriented Software
Engineering
Decision and Process Support
Life Science Informatics
Collaborative Virtual and Augmented Environments
TOTEM
AREEF
Underwater AR
MIRACLE
MARCUS
Science Center ToGo
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IPCity
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Fraunhofer-Gesellschaft

Contact
Hagen Buchholz
Phone: +49 2241 14-2698
hagen.buchholz@fit.fraunhofer.de

Demo on youtube:



Science Center ToGo

Fraunhofer-Institut für Angewandte Informationstechnik FIT



Tangible Formulas

Nowadays Science Centers offer a fascinating bouquet of exhibits to their visitors. They provide hands on learning experiences, delivering natural ways of active playful learning. Therefore, special exhibits are built, which usually demand extraordinary venues with proper spaces and elaborate maintenance. The exhibits are often fairly complex and due to their prototypical character relatively expensive. Augmented Reality can add a whole new set of flexibility and possibilities to such installations, as indicated within the projects [CONNECT](#) and [EXPLOAR](#).

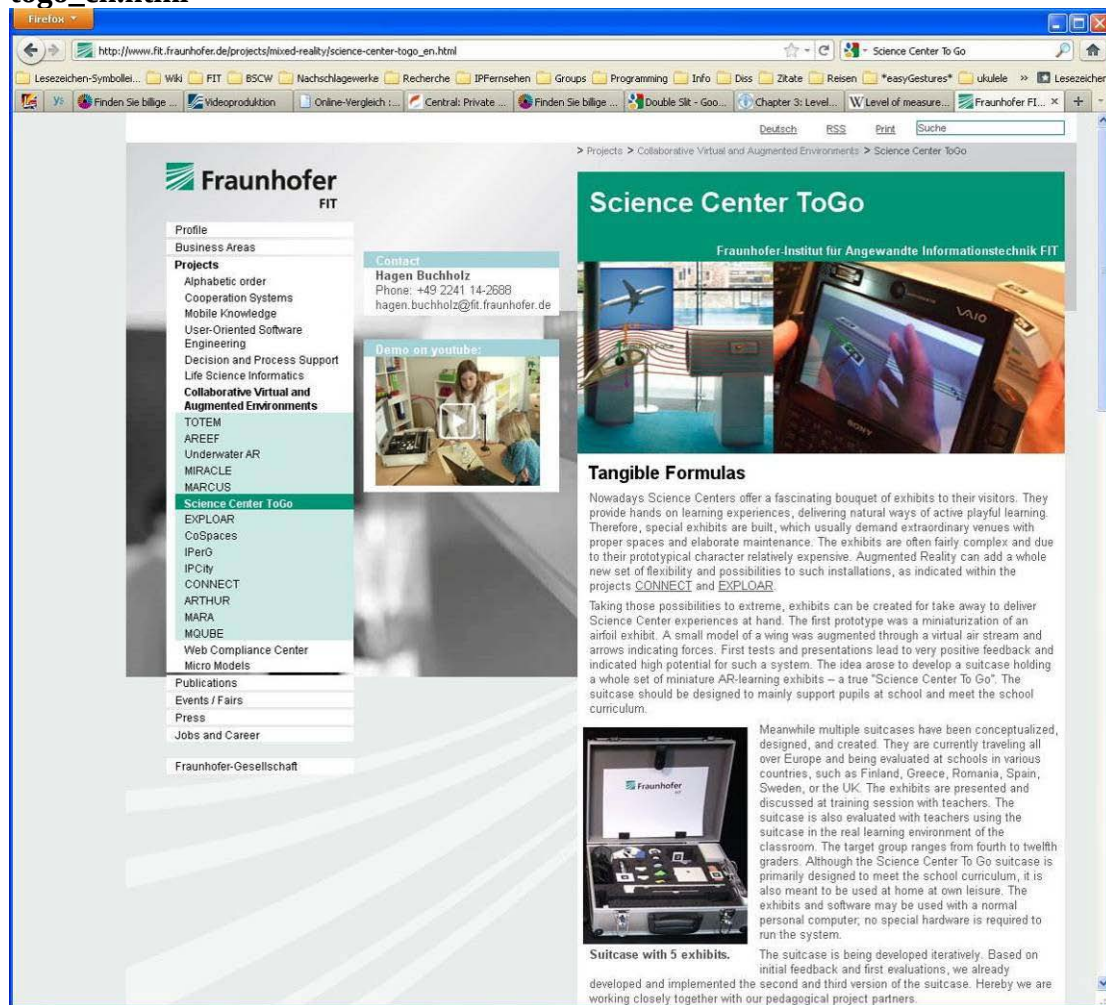
Taking those possibilities to extreme, exhibits can be created for take away to deliver Science Center experiences at hand. The first prototype was a miniaturization of an airfoil exhibit. A small model of a wing was augmented through a virtual air stream and arrows indicating forces. First tests and presentations lead to very positive feedback and indicated high potential for such a system. The idea arose to develop a suitcase holding a whole set of miniature AR-learning exhibits – a true "Science Center To Go". The suitcase should be designed to mainly support pupils at school and meet the school curriculum.



Meanwhile multiple suitcases have been conceptualized, designed, and created. They are currently traveling all over Europe and being evaluated at schools in various countries, such as Finland, Greece, Romania, Spain, Sweden, or the UK. The exhibits are presented and discussed at training session with teachers. The suitcase is also evaluated with teachers using the suitcase in the real learning environment of the classroom. The target group ranges from fourth to twelfth graders. Although the Science Center To Go suitcase is primarily designed to meet the school curriculum, it is also meant to be used at home at own leisure. The exhibits and software may be used with a normal personal computer; no special hardware is required to run the system.

Suitcase with 5 exhibits. The suitcase is being developed iteratively. Based on initial feedback and first evaluations, we already developed and implemented the second and third version of the suitcase. Hereby we are working closely together with our pedagogical project partners.

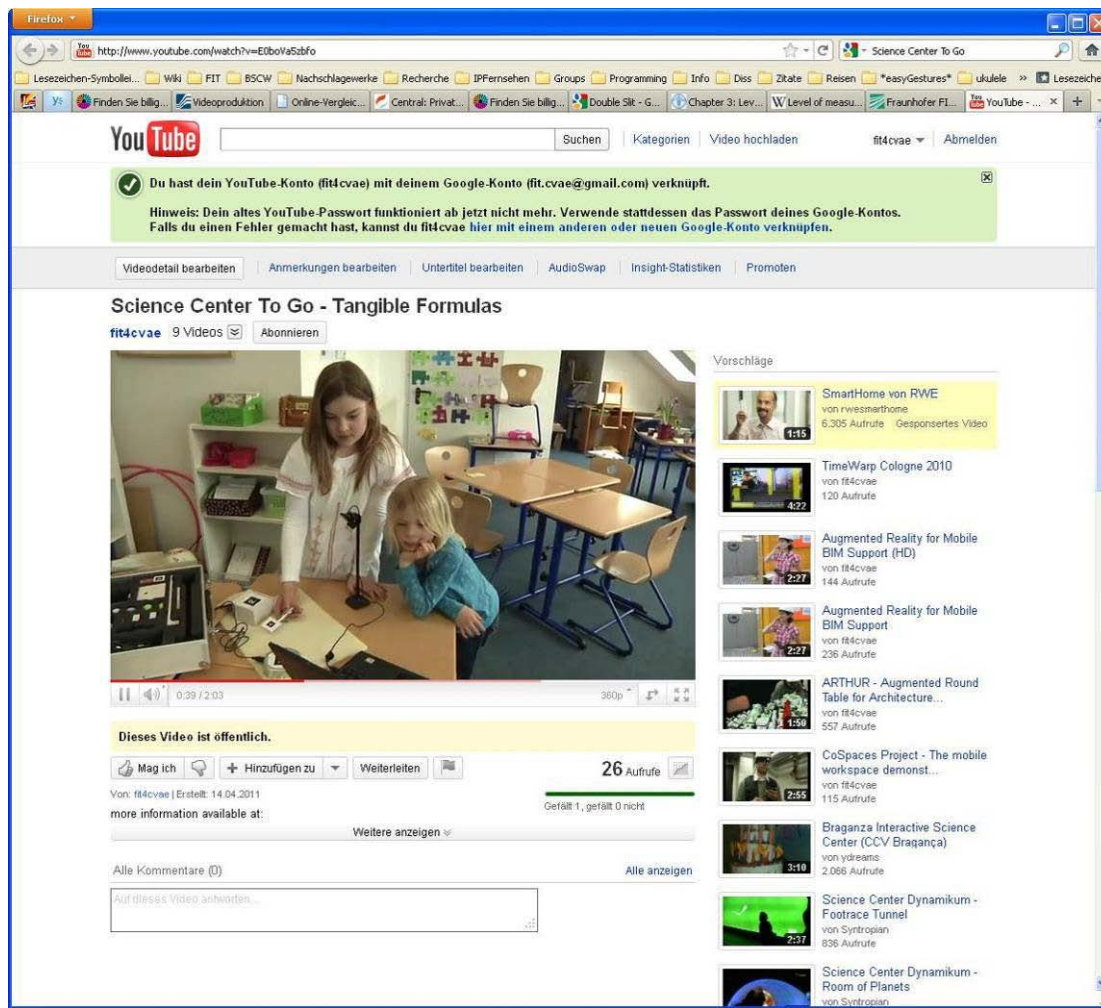
http://www.fit.fraunhofer.de/projects/mixed-reality/science-center-togo_en.html



12th of April: published Science Center Video On YouTube:

<http://www.youtube.com/watch?v=E0boVa5zbfo>

(reached more than 700 viewers in the first half year)



13th of April 2011: SCeTGo will be presented among eight other presenters at the Girlsday of the Bundeskanzleramt in Berlin

http://www.girls-day.de/Girls_Day_Info/English_Information

The Science Center To Go was presented at the Girl's day Kickoff at the chancellery house in Berlin. We were happy to welcome the Chancellor of Germany Angela Merkel at our stand for a short visit.

The Girl's Day takes place once a year in Germany. It is meant to motivate girls and women to get interested in the fields of natural sciences and engineering. The Girl's Day aims at an increase of female employees in jobs which are usually dominated by male employees. Therefore, various enterprises and institutions from all over Germany conduct an open house activity just for girls, once a year.

(source of the photo is "Initiative D21



e.V.")

Pressrelease and announcement at the Fraunhofer FIT Main Webpage Pressrelease from April 11th:

Firefox
http://www.fit.fraunhofer.de/presse/11-04-07.html

Lesenzeichen-Symbole... Wiki FIT BSCW Nachschlagewerke Recherche IPFernsehen Groups Programming Info Diss Zitate Reisen *easyGestures* ukele Lesenzeichen
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> Presse > 11-04-07

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Alex Deeg
Telefon: +49 2241 14-2208
pr@fit.fraunhofer.de

Pressemeldungen
Fraunhofer-Institut für Angewandte Informationstechnik FIT

Girls'Day 2011: Mädchen forschen und tüfteln bei Fraunhofer

7. April 2011

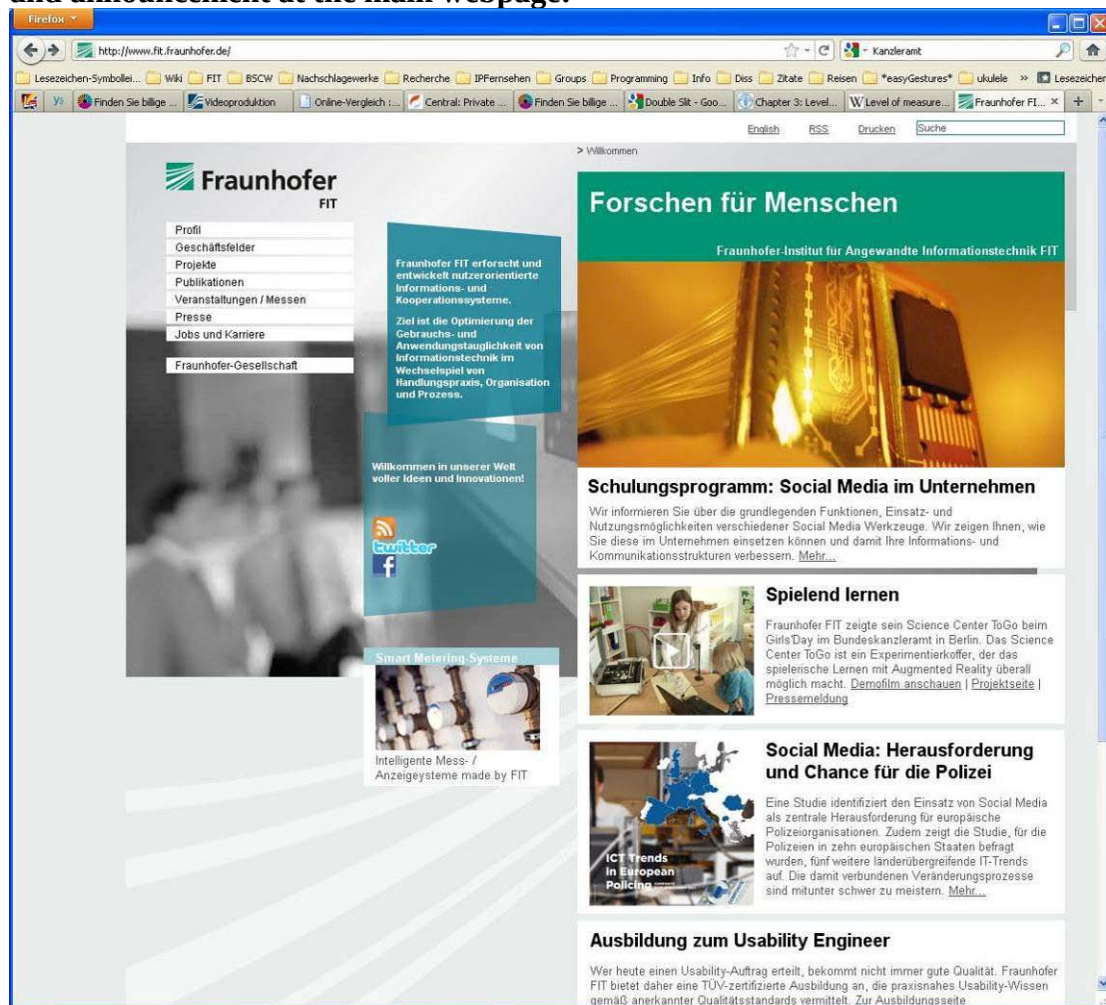
86 Mädchen fahren am 14. April 2011 die Computer hoch, streifen sich Laborkittel über und machen mit beim jährlichen Girls'Day am Fraunhofer-Institutszentrum Schloss Birlinghoven. In 17 verschiedenen Workshops können sie spannende Fragen untersuchen. Dabei geht es um aktuelle Themen aus den Bereichen Informatik, Physik, Biologie und Mathematik. Die Fraunhofer-Institute des Institutszentrums steuern auch zwei Exponate zur Girls'Day. Auftaktveranstaltung im Bundeskanzleramt am 13. April 2011 bei. In Begleitung von Bundeskanzlerin Angela Merkel absolvieren 24 Schülerinnen einen Technik-Parcours.

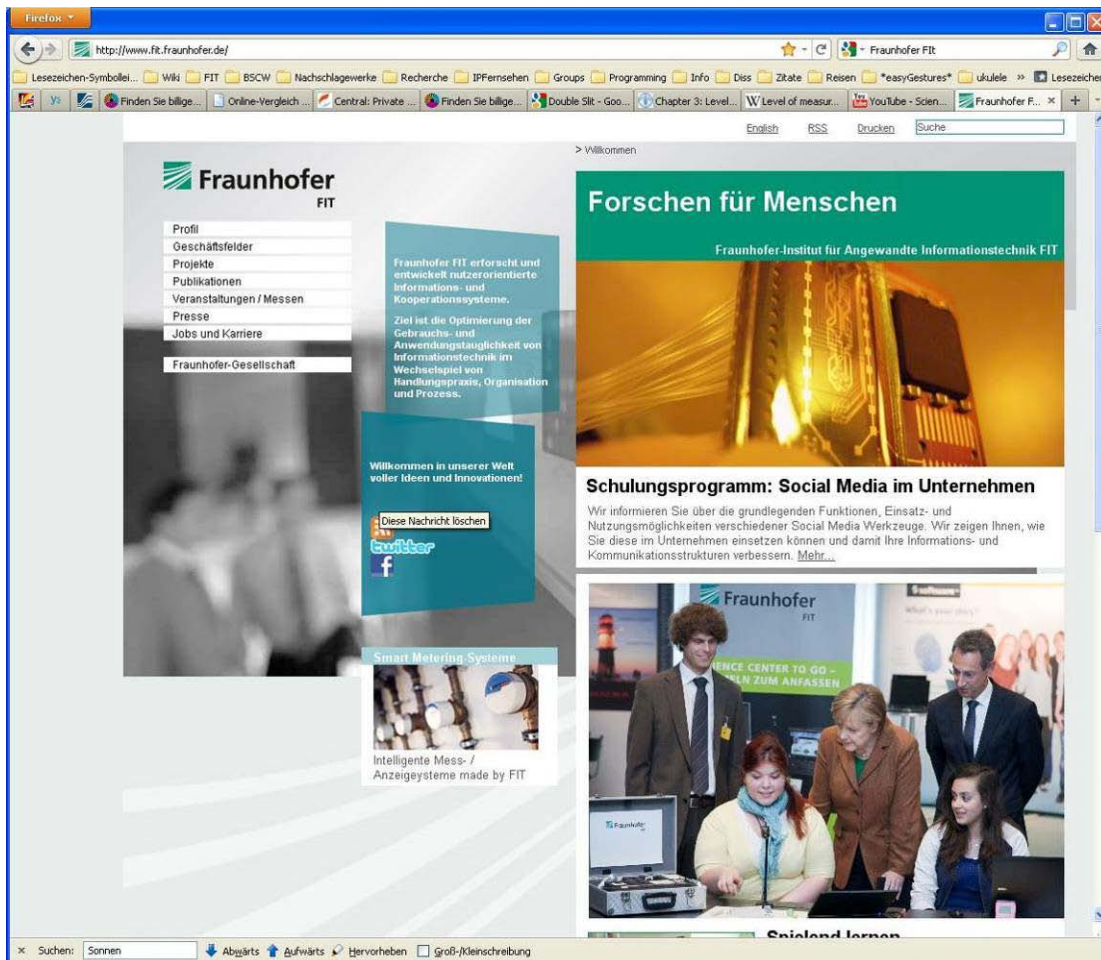
In praxisnahen Kursen zum Mitmachen können die Mädchen der Klassen 5 bis 10 ab 9 Uhr am Fraunhofer-Institutszentrum Schloss Birlinghoven in Sankt Augustin auf Entdeckungsreise gehen. In ein- bis dreistündigen Workshops erforschen sie vielfältige Themen aus unterschiedlichen wissenschaftlichen Bereichen. "Die Mädchen können beispielsweise mit selbstgebaute Spektrografen das Licht untersuchen, ein Portal für die Deutsche Digitale Bibliothek gestalten oder einen Blick hinter die Kulissen der Hochschulfraunhofer erleben", sagt Prof. Dr. Stefan Wenzel, Sprecher des

Suchen: Sonnen Abwärts Aufwärts Hervorheben Groß-/Kleinschreibung

<http://www.fit.fraunhofer.de/presse/11-04-07.html>

and announcement at the main webpage:





<http://www.fit.fraunhofer.de/>

15th of April: Science Center To Go presentation to a Korean deligation

Today we presented the Science Center To Go to a Korean deligation including a deputy director of Ministry of Knowledge Economy, Ms. Gayoung Lee and the European Representative and Principal Researcher KIAT EU Office Bryan(Sungjin) Baik.



April 27th 2011:

Report about Science Center To Go at the Innovisions magazine

<http://innovisions.de/beitraege/science-center-to-go/>

Innovisions

3D / AAL / Ambient Assisted Living / Assistenzsysteme / B2B / B2C / Digitale Medien
E-Government / Eingebettete Systeme / Embedded Systems / Energie / Energie und Nachhaltigkeit / Green
IT Innovation / IT-Sicherheit / Medizin / Medizintechnik / Open Innovation / Sankt
Augustin / Sicherheit / Simulation / Smartphones / Software / Stuttgart / Usability / Web 2.0

nicht angemeldet

Anmelden/Registrieren

Aktuelle Themen

Future Government

Urban Living in Smarter Cities

Kleine Teile, große Wirkung: Embedded Systems

Innovation im Enterprise 2.0

Nachhaltigkeit und Green IT

Medien: Mehr als nur interaktiv

Medizin: IT intravenös

Kolumnen

Interviews

Schlagworte Volltext

TIPPS UND HILFE

Suchergebnisse Filtern

Suche starten

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Science Center To Go

Science Center To Go

Experimentierkoffer für die Schule

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Hagen Buchholz

Fraunhofer FIT

Links und Downloads

Webseite des Projekts "Science Center To Go"

Projekt-Webseite "SCeToGo - Science Center To Go" am Fraunhofer FIT

CONNECT - Augmented Reality für anschaulichen Unterricht

Augmented Reality für anschaulichen Unterricht Vorgängerprojekt EXPLOAR

Augmentierte Science Center und Museen

Sinnethin - Augmented Reality

27. April 2011 — Die Aussagen wissenschaftlicher Experimente lassen sich Schülern und Schülerinnen vor allem dann gut vermitteln, wenn sie nicht nur bei Versuchsaufbau und -Änderungen der Versuchsanordnungen mit Hand anlegen, sondern die Vorgänge während eines Versuchs mit möglichst vielen Sinnen erfassen können. Mit dem Experimentier-Koffer „Science Center To Go“ des Fraunhofer FIT werden Physik- und Chemielehrer künftig wichtige Experimente durchführen und die dabei ablaufenden naturwissenschaftlichen Prozesse mithilfe von Augmented Reality sichtbar machen können.

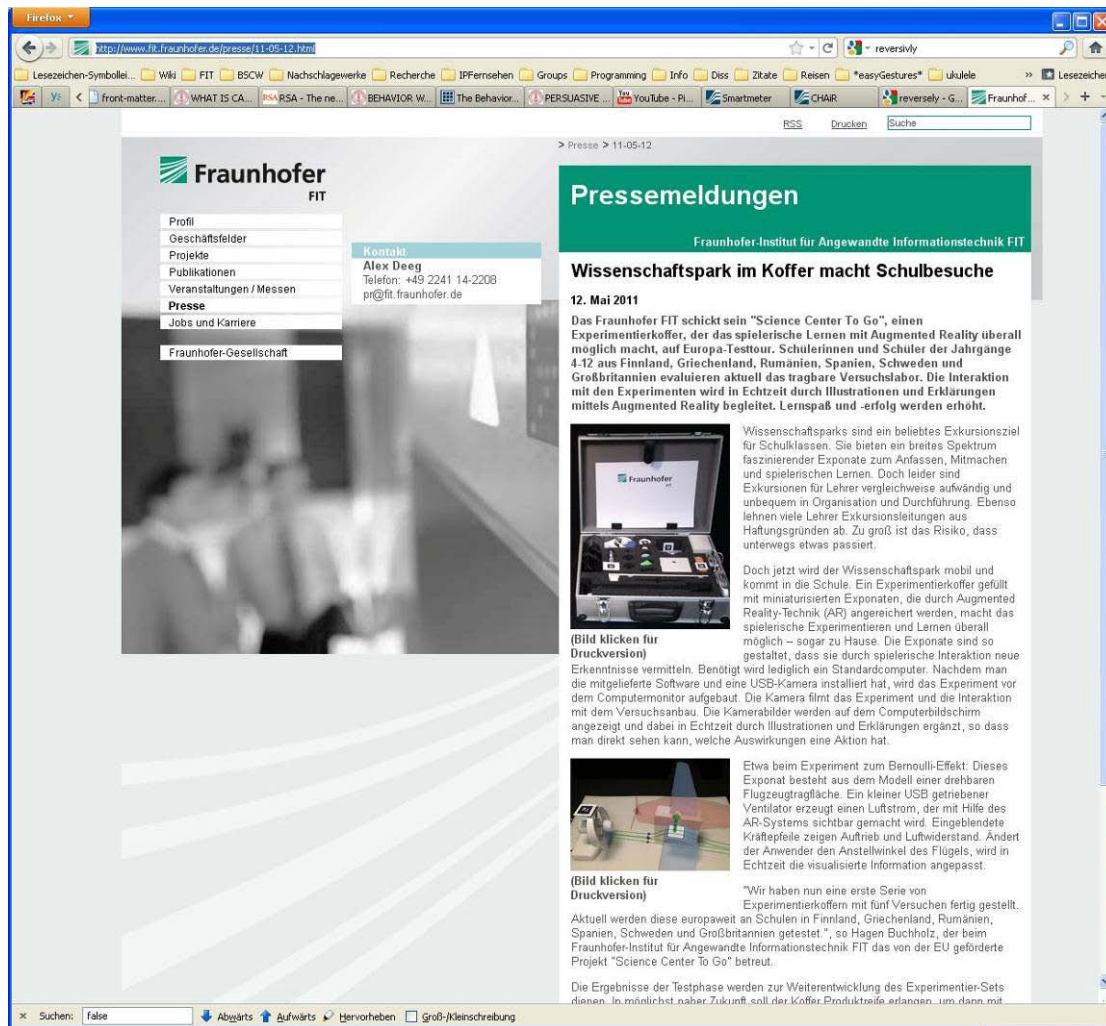
Seit über zehn Jahren gehört „To-Go“ zu denjenigen Begriffen, die aus unserem Alltag nicht mehr wegzudenken sind. Neben dem Kaffee To-Go, gibt es Literatur-To-Go, Versicherungen-To-Go oder auch Hochzeiten-To-Go. Und natürlich gibt es eine Vielzahl von Angeboten von „Wissen-To-Go“. Viele finden sich in den Apps unserer Smartphones wieder. Trotz dieser Entwicklungen erhalten viele schulische Anschauungs- und

6th – 8th of May: Science Center To Go Presentation at the SCIENTIX The presentation lead to further invitation to SPICE

conference



Fraunhofer FIT Press release from May 12th 2011

Update of Fraunhofer FIT main webpage www.fit.fraunhofer.de

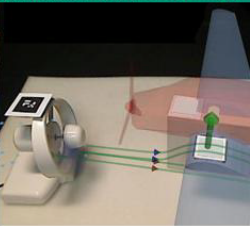
[English](#) [RSS](#) [Drucken](#)



- Profil
- Geschäftsfelder
- Projekte
- Publikationen
- Veranstaltungen / Messen
- Presse
- Jobs und Karriere
- Fraunhofer-Gesellschaft

Forschen für Menschen

Fraunhofer-Institut für Angewandte Informationstechnik FIT

Wissenschaftspark im Koffer

Das "Science Center To Go", ein Experimentierkoffer, der das spielerische Lernen mit Augmented Reality überall möglich macht, geht auf Europa-Testtour. [Pressemeldung](#) | [Demofilm anschauen](#) | [Projektseite](#)

Fraunhofer FIT zeigte Science Center ToGo auch beim [GirlsDay im Bundeskanzleramt](#).

Schulungsprogramm: Social Media im Unternehmen

Wir informieren Sie über die grundlegenden Funktionen, Einsatz- und Nutzungsmöglichkeiten verschiedener Social Media Werkzeuge. Wir zeigen Ihnen, wie Sie diese im Unternehmen einsetzen können und damit Ihre Informations- und Kommunikationsstrukturen verbessern. [Mehr...](#)



Social Media: Herausforderung und Chance für die Polizei

Eine Studie identifiziert den Einsatz von Social Media als zentrale Herausforderung für europäische Polizeiorganisationen. Zudem zeigt die Studie, für die Polizeien in zehn europäischen Staaten befragt wurden, fünf weitere länderübergreifende IT-Trends auf. Die damit verbundenen Veränderungsprozesse sind mitunter schwer zu meistern. [Mehr...](#)

Ausbildung zum Usability Engineer

Wer heute einen Usability-Auftrag erteilt, bekommt nicht immer gute Qualität. Fraunhofer FIT bietet daher eine TÜV-zertifizierte Ausbildung an, die praxisnahes Usability-Wissen gemäß anerkannter Qualitätsstandards vermittelt. [Zur Ausbildungsseite](#)

Weitere Nachrichten

→ [Fraunhofer-Institutszentrum Schloss Birlinghoven siegt zum zweiten Mal im Wettbewerb "365 Orte im Land der Ideen"](#)

Willkommen in unserer Welt voller Ideen und Innovationen!




Smart Metering-Systeme



Intelligente Mess- / Anzeigesysteme made by FIT

25th of May: Science Center To Go Presentation for the state minister Minister for *Innovation, Science* and Research



26th – 29th of August: SCeTGo presentation and workshop of the suitcase at SPICE conference hands on workshop (with about 40 participants) and presentation addressing approximately 150 participants of European Learning projects





XYth of May: Presentation at regional funding fair at Science Center Oddyseum in Cologne

2nd – 3rd of October: Hands on presentation at National Convention on Science Learning in Bayreuth



27th - 30th of October: Presentation and Workshop at EDEN Open Classroom conference

Ongoing Dissemination on Facebook and Twitter of Fraunhofer
Work in progress

- Presentation at the E12 convention

4.3 Dissemination events and Evaluation by University of Barcelona (UB)



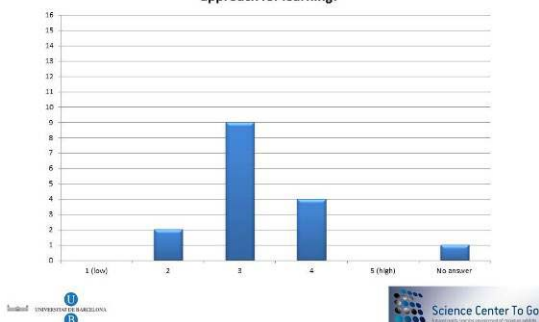
SETUP

- Participants: 16 students to become science teachers at secondary school
- Location: University of Barcelona (UB) – Faculty of Pedagogy
- Date: 17th of May 2011
- Duration: 2 hours



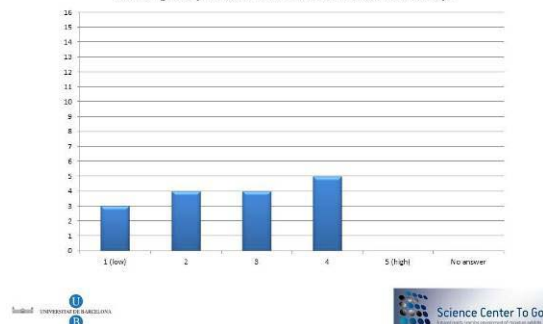
Results: pedagogical validation

How would you estimate the effectiveness of the SCeTGo approach for learning?



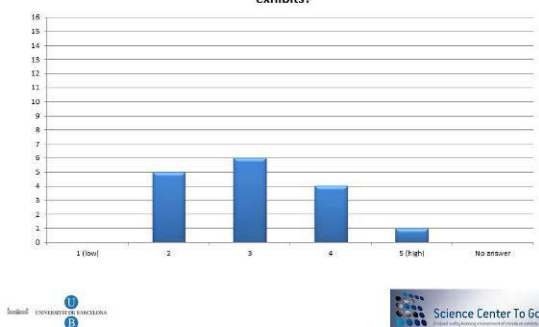
Results: pedagogical validation

How is your motivation for using the SCeTGo approach in teaching compared to how it was before the workshop?



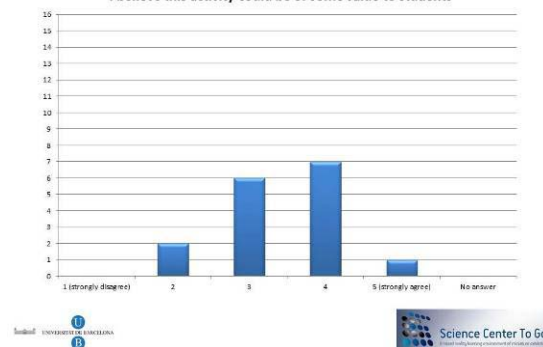
Results: technological validation

How would you estimate the quality of the SCeTGo miniature exhibits?

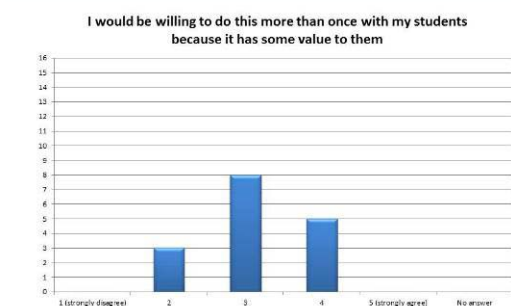


Results: potential value/usefulness

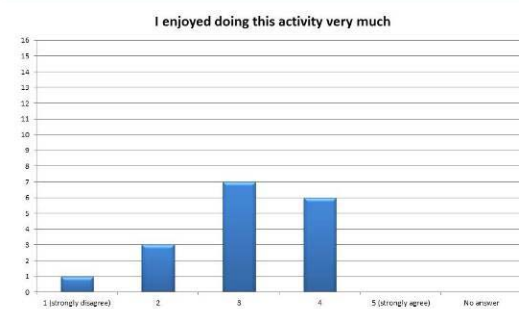
I believe this activity could be of some value to students



Results: potential value/usefulness



Results: intrinsic motivation



Comments

Negative	Positive
• "Too much time is needed to perform the experiments with the SCeTGo miniatures, whereas teachers usually have a tight schedule" • "There are cheaper ways of doing Inquiry-Based Learning activities with students" • "I would be afraid of wasting time adjusting the camera" • "The SCeTGo proposal needs further development in order to be used in the classroom" • "It seems that teachers can't adapt the miniatures to their specific needs"	• "The Inquiry-Based Learning methodology can engage students" • "The SCeTGo experiments are easy to perform" • "The miniatures are well-thought and original"



Contact



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 Silvia Alcaraz-Domínguez: silvia.alcaraz@ub.edu



25th of March, 2011: DIM-Espiral session where SCeTGo was presented





16th of May, 2011



17th of May, 2011



24th of May, 2011



Screenshot FutureLearning news posts related to SCeTGo



The screenshot shows a web browser window with the address bar displaying www.ub.edu/euelearning/news39.html. The page title is "Future Learning - News". The main header features a large image of an iceberg with the text "Future Learning" and the "UNIVERSITAT DE BARCELONA" logo. Below the header is a navigation menu with links: Home, Projects, Publications, Seminars, Team, Phd, Links, and Contact. The main content area is titled "> NEWS" and features a news post dated "November 1, 2011: Final project meeting for Science Center To Go in Athens". The post includes a collage of images showing SCeTGo suitcases and their components. The text of the post describes the project's progress, the contents of the suitcases, and the results of the final meeting.

> NEWS

November 1, 2011: Final project meeting for Science Center To Go in Athens

SCeTGo project is approaching its end. It has been a successful project, resulting in the implementation of three sets of SCeTGo suitcases.

A SCeTGo suitcase contains a set of five miniature experiments and all necessary materials for the implementation in school settings of inquiry-based experiments (i.e. a laptop, a webcam, user manual and helpful resources for teachers). The following physics phenomena are covered by the SCeTGo miniatures:

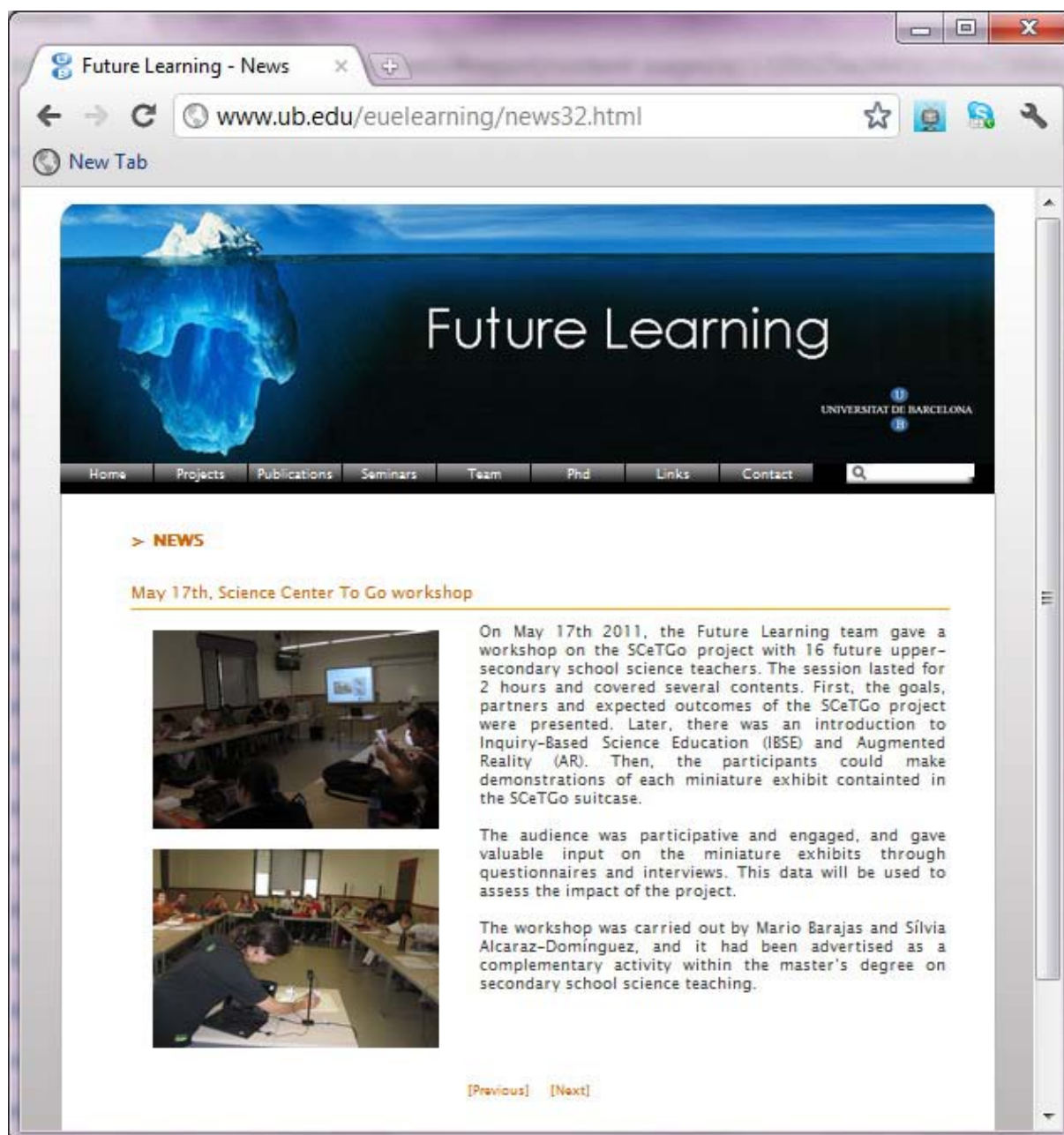
- The Doppler effect (Mini-fire truck)
- Classical mechanics (Mini-double cone)
- Wing dynamics (Mini-wing)
- Quantum mechanics (Mini-double slit)
- Kinetic theory of gases (Mini-cooler & heater).

SCeTGo suitcase has been tested with teachers and students of different ages in the partners countries (Finland, Germany, Greece, Romania, Spain, Sweden, UK). The validation process shows that not only the approach is very motivating, but also it increases learning outcomes.

During the last SCeTGo consortium meeting partners discussed the final tasks until the end of the project (December 31, 2011) and exploitation issues that go beyond the project end. SCeTGo has been proposed as best practice in the framework of another EU project - PATHWAY, which is dedicated on inquiry-base science education. SCeTGo suitcases might in this way continue their trip across Europe.

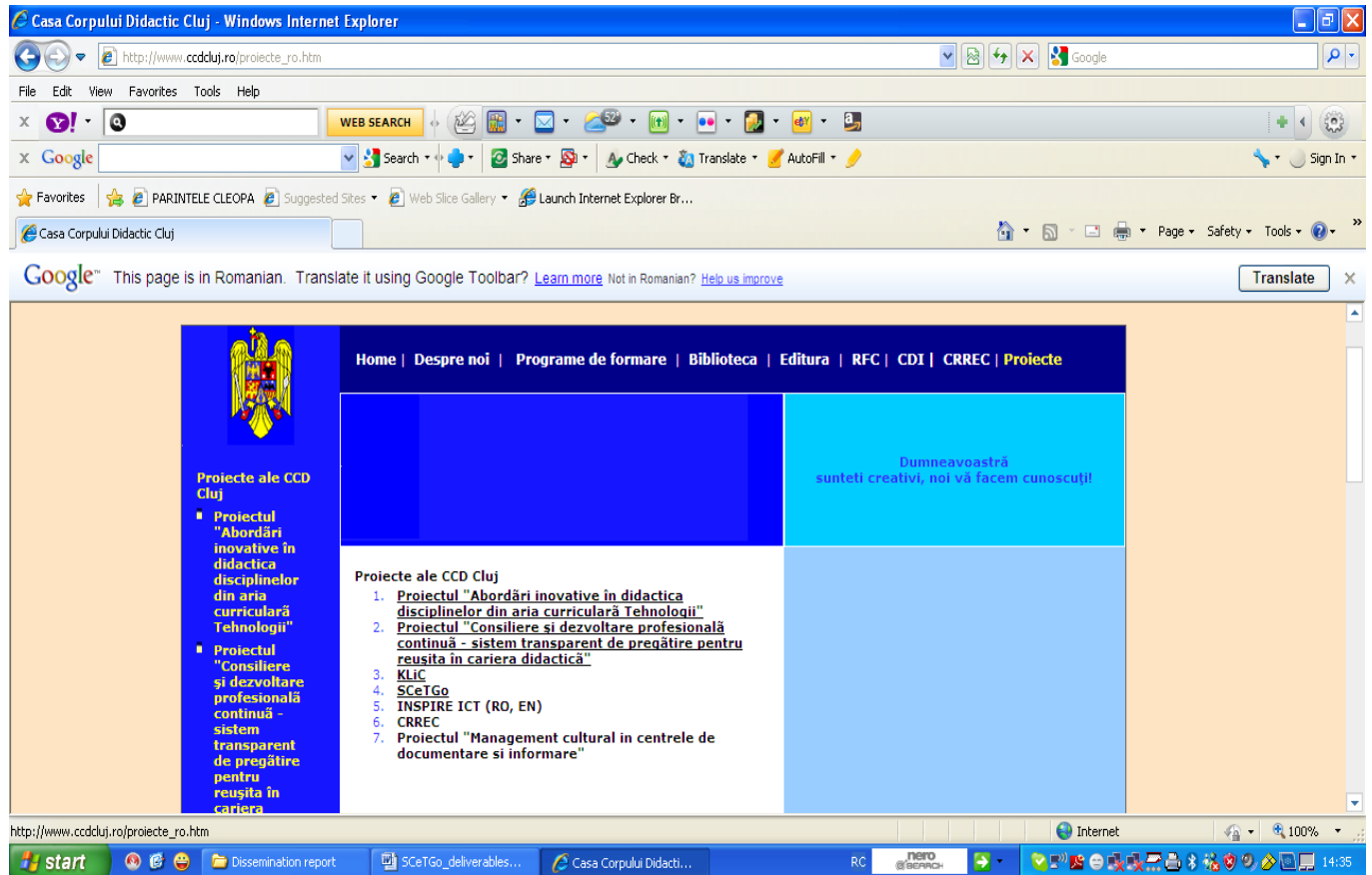
For the latest news on the project, visit its [website](#).

[Previous] [Next]

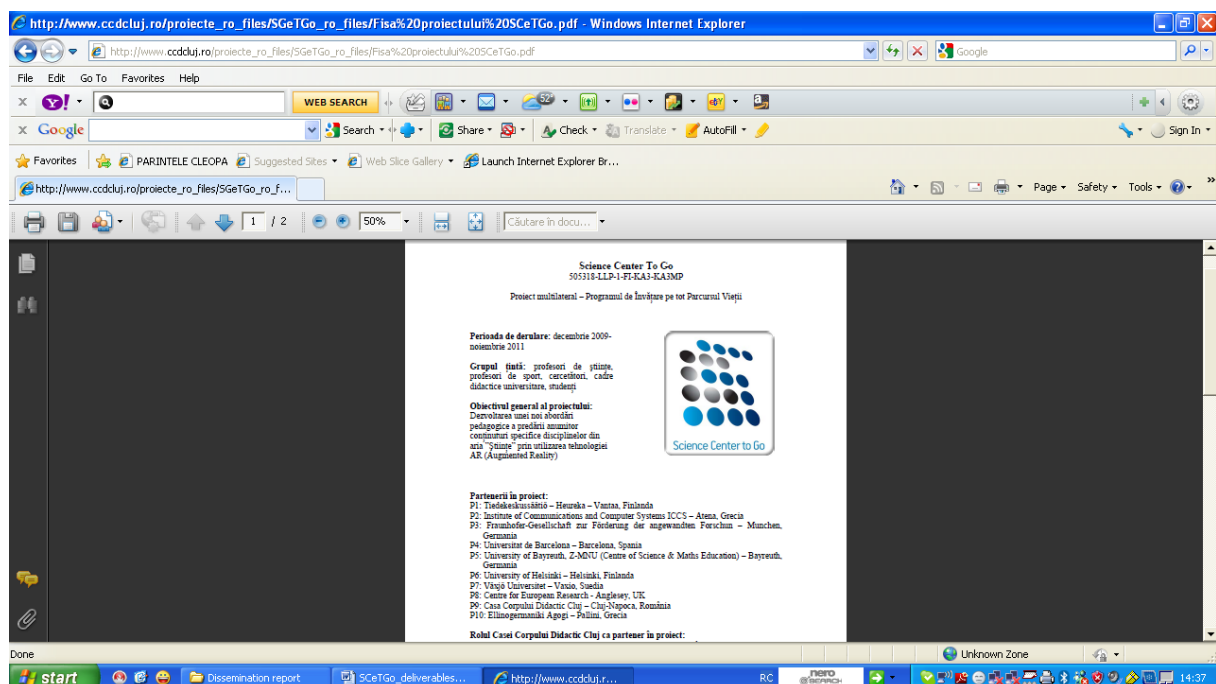


4.4 Dissemination events by Cluj County Teacher Training Centre (CCD Cluj)

A special section for SCeTGo project is dedicated on the website www.ccdcluj.ro and http://www.ccdcluj.ro/proiecte_ro.htm



http://www.ccdcluj.ro/proiecte_ro_files/SGeTGo_ro_files/Fisa%20proiectului%20SCeTGo.pdf



The project SCeTGo was presented at the “Preuniversitaria” Symposium on the 20th of March 2010 in Cluj-Napoca, with an audience consisting of 147 teachers from 4 Romanian counties: Cluj, Prahova, Vâlcea and Alba. There were presented the objectives, the activities, the target group and the expected results.



Picture 1. Dorina Kudor, headteacher of CCD Cluj - Opening speech

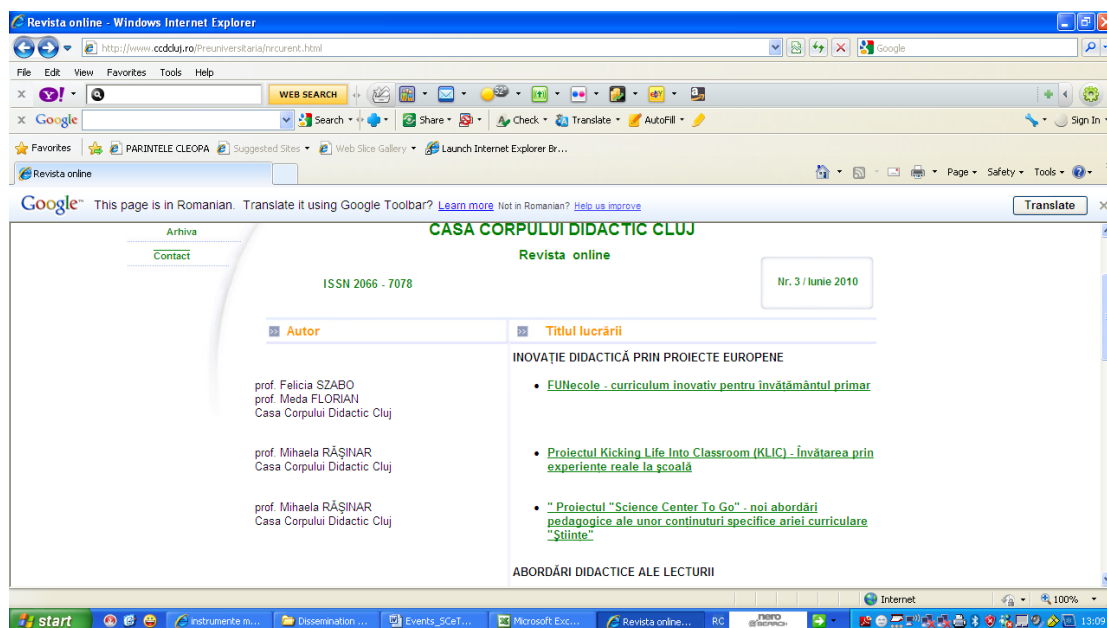


Mihaela Rasinar – Presenting the SCeTGo project



Picture 3. Symposium Plenum

After the event an article about the aims and activities of the project was published in the “Preuniversitaria” online magazine of CCD Cluj, that can be reached on the official website: <http://www.ccdcluj.ro/Preuniversitaria/nrcurent.html>



4.5 Dissemination events by Institut of Communications and Computer Systems and Ellinogermaniki Agogi (ICCS and EA)

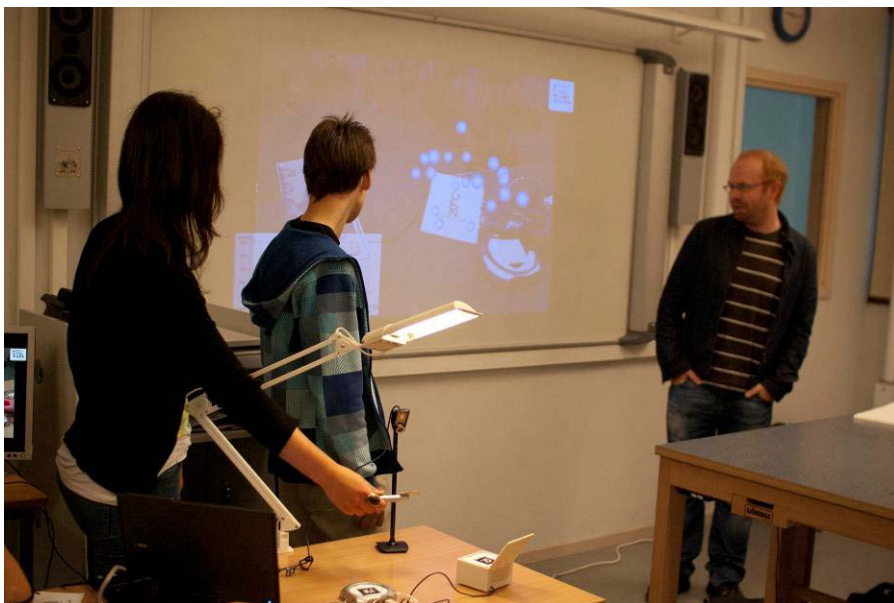
Angelo Lazourdis presenting Doppler effect in Higher Greek military academy 7th of November 2011



4.6 Dissemination events by University of Växjö (LNU)



26.5.2011 Teknikåttan



24.5.2011 Araby

KLASS 9C PÅ ARABYSKOLAN • VÄXJÖFORSKARE TOG MED SIG NY TEKNIK TILL KLASSRUMMET

De fick se osynliga fenomen

RESPONS. Klass 9C på Arabyskolan fick en annorlunda fysiklektion på onsdagen.

En forskargrupp från Linnéuniversitetet var på besök för att testa sin nya teknik för osynliga fenomen.

David Johansson och Mattias Davidsson ingår i universitetets forskargrupp Center for learning and knowledge technologies. För tillfället arbetar de med ett projekt som med datorteknik och webbkamera förstärker verkligheten och visar fysiska fenomen som annars är svåra eller omöjliga att visa i ett klassrum.

Nu provar de tekniken ute i klassrummen för att få elevernas respons.

– Det är viktigt för oss att få elevernas synpunkter så att vi kan göra eventuella förändringar om det behövs. Sen kommer vi prata med lärarna också för att få deras synpunkter.

Projektet är ett EU-samarbete mellan sju länder. Tekniken är framtagen i Tyskland och Linnéuniversitetets del handlar främst om testande, men man har även varit delaktig i utformandet. David Johansson hoppas att den nya tekniken kan göra lektionerna roligare och bättre och bli ett komplement till skolböckerna.

– Med det här kan lärarna visa sådant som kan vara svårt att förklara, visa eller jobba med. Förhoppningen är så klart att utbildningen ska bli bättre.

Med sig till klasserna har man fem olika experiment om temperaturer,

ljud, luftströmmar och kvantfysik.

Innan forskarna sätter igång är det stökigt och rörigt i klassrummet. Efter ett tag sitter dock alla eleverna med full uppmärksamhet mot främre delen av klassrummet. Alla vill se vad som händer.

En första grupp går fram och får titta på utrustningen, som via datorn förvandlas till en värmeplatta, en frysbox och en termometer. När eleverna rör termometern får man se hur molekyler rör sig olika beroende på temperaturen. Eleverna får också se en tabell med fakta om temperatur och molekylernas hastighet.

– Ett sånt experiment är

TESTAR TEKNIKEN
Ilias Rohem, Manar Falah och Berivan Tutak testar tekniken och lär sig hur olika molekyler rör sig beroende på temperatur. Mattias Davidsson visar på tavlan.

FOTO: LAIRS-GÖRAN RYDQVIST



På en skärm kan klassen se vad som händer – verkligheten förstärks av datorteknik och 3D-grafik.

svårt att genomföra i ett normalt klassrum. Visst kan du visa temperaturskillnad men inte molekylerna, säger David Johansson.

Eleven Ilias Rohem tyckte att tekniken var

spännande och cool.

– Jag tror att lektionerna skulle bli mer intressanta och att vi skulle lära oss mer om det här fanns i undervisningen. Jag blev lite överraskad av det där med molekylerna, det

visste jag faktiskt inte och nu lär jag inte glömma det, säger han.

Klass 9C var den sista klassen som besöktes. Nu ska teamet sitta ner med lärare innan man redovisar och beslutar hur projektet ska gå vidare. Målsättningen är att tekniken ska ut i klassrummen men om och när det kan ske är oklart.

– Det är klart att det är vår förhoppning, det finns mycket att göra med det här och många ämnen som skulle kunna utnyttja tekniken, avslutar David Johansson.

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Smålandsposten Newspaper 26.5.2011