	Deliverable No 8.7	Final Activity Report - Section3	
Proposal Number	512931	Proposal Acronym	NAGINELS



Horizontal Research Activities involving SMEs Co-operative Research

Proposal/Contract No: 512931
 Project acronym: NAGINELS
 Project full title: Non AGgressive INternal Engraving Laser System

Start date of project: 1st October 2004 **Duration:** 25 months

Contract for:


CO-OPERATIVE RESEARCH PROJECT
Integrating and strengthening the ERA

DELIVERABLE 8.7: FINAL ACTIVITY REPORT **SECTION 3 – CONSORTIUM MANAGEMENT**

Due date of deliverable 15th November 2006
Actual submission date: 30th January 2007


Organisation name of lead contractor for this deliverable: KS Techniques

Deliverable 8.1	Date	Version
Preparation	1/12/2006	1.0
Final	14/01/2007	1.1

	Deliverable No 8.7	Final Activity Report - Section3	
Proposal Number	512931	Proposal Acronym	NAGINELS

INDEX

I	INTRODUCTION	3
II	THE PARTNERS	4
II.1	PARTNER N°1: KST (B)	4
II.2	PARTNER N°2: TBS (UK)	5
II.3	PARTNER N°3: COSTET (F)	5
II.4	PARTNER N°4: SOLOS (I)	6
II.5	PARTNER N°5: AMPLITUDE (F)	7
II.6	PARTNER N°6: LASEA (B)	8
II.7	PARTNER N°7: PALA (F)	9
II.8	PARTNER N°8: CSL (B)	10
III	THE PROJECT MANAGEMENT	11
III.1	OBJECTIVES	11
III.2	WP8.1: Coordination	11
III.3	WP8.2: Project management	12
III.4	WP8.3: Strategic management	12
III.5	Communications and meetings	13
IV	TIMETABLE UPDATE	15

	Deliverable No 8.7	Final Activity Report - Section3	
Proposal Number	512931	Proposal Acronym	NAGINELS

I INTRODUCTION

All WPs involved all the partners. All the partners have attended to the WPs meetings. The strong relationships between workpackages and SMEs & RTDs have created strong relations between all the partners. High quality results obtained during validation phase (WP1) have pushed forward a quicker development of the system in the same time than an improvement of the specifications. SMEs have more and more requirements for the future systems. A lot of improvement have been decided in the Strategic Board like :


- a Smallest size of the datamatrix for anticounterfeiting applications
- a Higher speed (new laser has a repetition rate 10 times higher than expected)
- a More contrast for normative and decorative applications
- a Links with MES & Ethernet communications for control system and vision systems
- a Matching new requirements of Accord Norm
- a ...

More communications and diffusion issues have been encountered. Strong strategic management and communication have been necessary. Legal and financial issues linked to status of universities, costs of Audit Certificate and explanation of EC Financial guidelines have also requested a legal and financial coordination by KST.

Summary of Partners:

Consortium			
KST	SME	Coordinator	WP1 & WP5 leader
TBS	SME		WP7 leader
COSTET	SME		WP4 leader
SOLOS	SME		
AMPLITUDE	RTD		WP2 leader
LASEA	RTD		WP3 & WP6 leader
PALA	RTD		
CSL	RTD		

End-users		Consortium contact	Interest
Pilkington		LASEA	***
GlaxoSmithKline		LASEA	*****
LVMH		COSTET	**

	Deliverable No 8.7	Final Activity Report - Section3	
Proposal Number	512931	Proposal Acronym	NAGINELS

II THE PARTNERS

Here is a brief introduction on the partners. For more information on each partner, see www.naginels.com and go to the page “links”, all the links to partner’s web sites are available on the logos.

II.1 PARTNER N°1: KST (B)

KST is a Belgian SME, specialised in the design, development manufacturing and sales on innovative industrial processes, founded in 1982 (25 people, turnover €3 million)..

KST, a multidisciplinary team, offers products and services for *Electronics*, *Electrotechnics*, *Laser Solutions* and *Process Solution & Control* (four departments).

MAIN ROLE IN PROJECT

KST is the coordinator of the project. They are responsible of validation phase (WP1) and of the prototype development (WP5).


KST works mainly on the specifications (mainly for normative marking applications) and tests of the Femto Laser system (WP1, WP4). They were deeply involved with AMPLITUDE and LASEA in the design and development of the Femto laser (WP2) and control unit (WP3). They develop and manufacture the prototype engraving system (WP5). They support Lasea during the WP6 (validation). They work also with Lasea on the new patent on Naginels process (WP7).

The technical staff participating in the project includes:

- Mr G. Detroux
- Mr S. Kupisiewicz
- Mr B. Pitz
- Mr JM Eloy
- Mr J. Fripiat
- Mr JB Langouche
- Mr. De Wergifosse
- Mr. Patrick Dodeur
- Mr. Capuana

Moreover, the administrative staff managing legal and administrative aspects of the Consortium includes:

- Mrs M. Magnée
- Mrs C. Chantraine (2005)
- Mrs M-A Alunni (2006)

	Deliverable No 8.7	Final Activity Report - Section3	
Proposal Number	512931	Proposal Acronym	NAGINELS

II.2 PARTNER N°2: TBS (UK)

Total Brand Security Ltd. (TBS) is a UK based company, founded in 2003 and is active in the area of Brand Security. The two founders are veterans of Westvaco Brand Security (WBS) that operated in that domain until recently, and in a way they continue WBS activity in that area. TBS is well positioned to provide integrated technology systems and security program management solutions to brand owners due in part to a growing assortment of technologies as well as already existing relationships with brand owners.

MAIN ROLE IN PROJECT


In coordination with SOLOS, TBS validate the use of the volume laser engraving as a new way to add signatures to transparent products. They are responsible of the information diffusion (WP7). They define the specifications (mainly for antifraud applications) and tests of the Femto Laser system (WP1, WP4). They visit potential customers and end-users (Chanel, L'Oréal, Saint-Gobain, Novartis,...) to get the main technical specifications in order to define the industrial specifications of the process and get samples to be treated in the validation phases (WP1, WP4, WP6). They analysed and gave comments on the results to RTDs. They also contribute to the dissemination of the results by writing press release and by contacting security software companies. They organised many seminaries (for example PISEC (Barcelona) and IQPC (London)). They presented Naginels in the Glasstec exhibition.

The technical staff participating in the project includes:

- Mr A. Simmons
- Mr J. Scherfs

II.3 PARTNER N°3: COSTET (F)

COSTET, s.a. was created in 1928 by Roger COSTET. Specializing in hand decorating for the most exclusive perfume brands, the company is now managed by Olivier and Xavier COSTET: it has become the largest independent decorating enterprise for the perfume and cosmetic markets in Europe. The company owns 10,000 square meters of factories in France. Two factories specialize in glass bottle decorating, one specializes in plastic decorating, one produces sprayed bottles (laquage).

	Deliverable No 8.7	Final Activity Report - Section3	
Proposal Number	512931	Proposal Acronym	NAGINELS

MAIN ROLE IN PROJECT

COSTET tests the Femto laser solution for innovative volume engravings, which may contain anti-fraud signatures. They are responsible of first validation of the new laser system (WP4). They define the specifications (for fragrance applications) and tests of the Femto Laser system (WP1, WP4, WP6). They gave samples and analysed them in the validation phases (WP1, WP4, WP6). . As potential end-user, they participate deeply in the specifications for the prototype engraving system (WP5) and in the definition of final tests (WP4). They made with KST all the study relating to the integration of the new technology in the fragrance industry. They manage the contact with the Naginels end-user "LVMH". They also take in charge the new ACCORD norm issues and get contact with the project managers.

The staff participating in the project includes:


- Mr X. Costet
- Mrs L. Costet
- Mr O. Costet
- Mr F. Hebert
- Mrs N. Veillard

II.4 PARTNER N°4: SOLOS (I)

SOLOS "Sistemi OLografici per la Sicurezza" [Holographic systems for Security] sells holographic technology to be used as a strong and reliable element in visible control identification. It is a Italian SME, founded in 1980 (20 people, turnover €5 million).

MAIN ROLE IN PROJECT

SOLOS validate the use of the volume laser engraving as a new way to add signatures to transparent products. They define the specifications (mainly for antifraud applications) and tests of the Femto Laser system (WP1 and WP4). They were involved in the design and development of the reading system (WP3). They visit potential customers and end-users to get the main technical specifications in order to define the industrial specifications of the process and get samples to be treated in the validation phases. They analysed and gave comments on the results to RTDs. They also contribute to the dissemination of the results by writing press release and making conference. For example, they presented Naginels in PISEC (Barcelona), Glasstec (Düsseldorf) and within some scheduled conferences with INDICAM (Italian Authority Against Counterfeiting activities), the CEO Ulisse Vivarelli, as

	Deliverable No 8.7	Final Activity Report - Section3	
Proposal Number	512931	Proposal Acronym	NAGINELS

executive member of the Indicam Board, was attended to present the Naginels project in several meetings as speaker.

The technical staff participating in the project includes:

- Mr U. Vivarelli
- Mr N. Dragoni
- Mr A. Vivarelli
- Mrs E. Cistellini
- Mrs C. Chisci

II.5 PARTNER N°5: AMPLITUDE (F)


AMPLITUDE SYSTEMES is a French SME specialized in the development and manufacturing of advanced Femtosecond lasers. AMPLITUDE SYSTEMES and its sister company, Amplitude Technologies, were funded by a team with extensive experience in femtosecond laser development. Its funding team comes from B.M.Industries, who was the first company in the early 1990s to offer commercial high power femtosecond laser systems and was later acquired by Thomson-CSF, now Thalès Laser.

AMPLITUDE SYSTEMES designs and manufactures compact and reliable femtosecond lasers, based on innovative diode-pumping technology, for commercial and industrial applications.

MAIN ROLE IN THE PROJECT

AMPLITUDE SYSTEMES contribute to the validation of the internal engraving process, to the tests and to the result dissemination. They were responsible for the Laser source development for Femtosecond engraving applications and have manufactured the new laser source. They also write the patent on Naginels process with Lasea which was deposited in October. The activities of Amplitude Systèmes during the second year of the Naginels project have been mainly centred around the following subjects:

- Final optimisation and quality control of the femtosecond laser
- Integration with LASEA and KST in the prototype marking system
- Recommendations for industrial integration
- Dissemination of results

	Deliverable No 8.7	Final Activity Report - Section3	
Proposal Number	512931	Proposal Acronym	NAGINELS

The technical staff participating in the project includes:

- Mr E. Mottay
- Mr C. Hoenninger
- Mr A. Courjaud
- Mr P. Rigael

II.6 PARTNER N°6: LASEA (B)


LASEA is a Belgian SME specialized in new industrial laser applications. The core business is laser-based processes with references in the glass and pharmaceutical field. They provided laser integration in industrial processes (automation, design of new lasers, feasibility studies, installation design, « turn key » installations, maintenance,...) and expertise (Problem solving through laser related technologies).

MAIN ROLE IN THE PROJECT

LASEA contribute to the validation of the internal engraving process, to the tests and to the result dissemination. They have managed the RTDs work of the validation phase (WP1). They are responsible of laser control unit development (WP3). They have developed and manufactured the control unit, vision system of the prototype engraving system. They created the Naginels web site and wrote the patent on Naginels process which was deposited in October. They manage contacts with the two other end-users of the project (Pilkington and GlaxoSmithKline). They integrate in their laboratory the different subsystems during the WP4 in order to proceed the validations. They contributed to the development of the prototype (WP5) and were responsible of the validation phase on real objects (WP6). They have organised the exhibition in Glasstec 2006 and participate to many seminars and conferences on Naginels technologies.

The technical staff participating in the project includes:

- Mr A. Kupisiewicz
- Mr G. Heraly
- Mr L. Djama
- Mr PE Martin
- Mr H. Bredhol

	Deliverable No 8.7	Final Activity Report - Section3	
Proposal Number	512931	Proposal Acronym	NAGINELS

II.7 PARTNER N°7: PALA (F)


The The Plateforme d'Application des Lasers en Aquitaine (PALA) is part of the Centre Lasers Intenses et Applications (CELIA) at the University Bordeaux I. It is a technology transfer centre specialized in laser and applications. PALA has been created in 1998. His goal is to help in the development of industrial product based on new and innovative ideas in the domain of optics. PALA's activities extend from femtosecond laser development, optical instruments development to micro-machining with lasers. PALA hosts 5 different laser based micro-machining systems all equipped with micro-positionning translation stages and computerized scanning systems. It also has all the scientific equipment need to assess the quality of micro-machining tests.

ROLE IN THE PROJECT

PALA contribute to the theoretical and experimental analysis of ultrafast light/matter interactions and the understanding and optimisation of engraved material parameters and the related engraving process. All the tests made in WP1 and WP3 with the femtosecond laser were made thanks to PALA equipments and manpower. Pala made also a conference on Naginels in Vinexpo and introduced Costet to the managers of ACCORD Norm (WP7). They participated to the WP4 validation phase (one campaign in Lasea) and lend the galvahead used during the WP1 tests in Pala laboratory. PALA have also achieved some comparative tests between femto laser and UV laser (at 355nm) for decorative applications on glass bottles delivered by COSTET and they have evaluate the state-of-the-art in laser technology for surface and intra volume marking, as well as non-contact shape recognizing technologies. This solution could be a way to adjust automatically the position of the glass bottle in front of the laser head or reading device. Naginels technology has been presented on PALA's stand in MICRONORA 2006, the 16th International Microtechnology Trade Fair, hold in Besançon, France.

The technical staff participating in the project includes:

- Mr J. Lopez
- Mr F. Salin

	Deliverable No 8.7	Final Activity Report - Section3	
Proposal Number	512931	Proposal Acronym	NAGINELS

II.8 PARTNER N°8: CSL (B)


The Centre Spatial de Liège is a research centre of the University of Liège that involve around 100 people. Activities are shared between space payload calibration and certification, space instrument development and a large number of various R&D activities in optics field. The CSL Non Linear Optics laboratory has started its activity 10 years ago and employs presently 8 persons: 4 doctors of Sciences, 2 Engineers and 2 technicians in optics. It is organized around two main fields of study.

ROLE IN THE PROJECT

CSL contribute to the Theoretical and experimental analysis of perturbative interactions of light with matter in highly non linear regime (self-focusing, bleaching, colouring effect,...) and the understanding and optimisation of engraved material parameters and the related engraving process. They prepare samples and tests protocols, and participate to the RTDs tests in Bordeaux during the WP1. They participate to the samples analyses and to the conclusions on the results (WP1). They participate to the optical developments of WP3 (Optical system of the galva head and of the vision system). They participate to the development of optical systems and optimisation (WP4, WP6). They help also Lasea for the examination of anteriority study on Naginels patent and for the deposit of PCT version.

The technical staff participating in the project includes:

- Mr P. Lemaire
- Hellin, Marie-Laure
- Rosato, Nathaele
- Stutnik, Paola

	Deliverable No 8.7	Final Activity Report - Section3	
Proposal Number	512931	Proposal Acronym	NAGINELS

III THE PROJECT MANAGEMENT

III.1 OBJECTIVES

- a To ensure a seamless coordination among the Consortium partners
- a To implement the appropriate risk assessment approaches in order to meet the project objectives
- a To produce the expected deliverables within the quality standards set forth by the consortium and the EC
- a To use decision criteria to meet the project objectives according to the rules of the Consortium Agreement
- a To manage dissemination and knowledge uses according to the Consortium Agreement rules.

The decision-making processes involve the following bodies:


- a Strategic Board (SB)
- a Technical Board (TB)
- a Work Packages leaders
- a Task Leaders

III.2 WP8.1: Coordination

The coordination tasks aim at smoothing information flow (data collection and transmission) among all partners, so that decisions are taken based on relevant, timely and unbiased information regarding the project and its environment.

The project coordination team is in charge of all matters dealing with the EC :

- a Technical Management
- a Strategic Management
- a Legal issues
- a Contractual issues
- a Policy issues
- a Financial issues

	Deliverable No 8.7	Final Activity Report - Section3	
Proposal Number	512931	Proposal Acronym	NAGINELS

III.3 WP8.2: Project management

The management tasks aim at taking the decisions to ensure that the right efforts are taken at the right time to meet the project objectives and to prepare the exploitation plan of the project outputs.

Management is the responsibility of a team involving the project decision making bodies and whatever project actor relevant at the time decisions are taken and must be implemented

Management tasks include:


- a Current project decision making
- a Risk management, which allows the identification of risks and possible solutions in line with the future result exploitation schemes
- a Management of the deliverable production
- a Time versus cost of work appraisal
- a Resource allocation
- a Division of work
- a Change control procedures
- a Consortium agreement implementation
- a Knowledge management

III.4 WP8.3: Strategic management

Strategic management aims at defining progressively the Plan for Using and Disseminating Knowledge, and implementing it beyond the end of the project (see Deliverable 8.1 Annex).

It involves the Strategic Management Board from the start of the project.

The final version of the Plan for Using and Disseminating Knowledge will be approved by the Strategic Board after the final meeting with the EC, as a binding document between the partners.

	Deliverable No 8.7	Final Activity Report - Section3	
Proposal Number	512931	Proposal Acronym	NAGINELS


Seeing the excellent results and the great potential of the new process, PUDK is discussed in each WP meeting. Subjects relating to PUDK mainly discussed were:

- a List of harmful countries, capable of purchasing the results of the project for counterfeiting purposes
- a Price policy (lump sum, "clic", partial lump sum and clic,...)
- a Information to disseminate:
 - Publications
 - Contacts with prospects)
 - Signature of a non disclosure agreement
 - Samples to be collected from the prospects and treated
 - Web site
 - Press release
 - Conference
- a Creation of a GIEE
- a Deposit of a brevet
- a ...

See PUDK for more details (see Deliverable 8.9).


III.5 Communications and meetings

- a KST, as coordinator, engaged a new employee (Mrs Chantraine (2005) and Mrs Alunni (2006)) to manage all the communications between Consortium, the communications with the Commission, the Consortium meetings (planning, hotels...), the respect of timing for internal and EC deliverables...
- a Technical meetings are often organised before or after Strategic Board meetings because people of SB are often the same as the ones of Technical Board.
- a Technical issues are often managed through teleconferences or by e-mails
- a Web site (Consortium Part) helps to share documents and templates, diffusion of information...
- a Legal and financial issues are treated directly between Mrs Magnée (KST) and the partner or end-user concerned

	Deliverable No 8.7	Final Activity Report - Section3	
Proposal Number	512931	Proposal Acronym	NAGINELS

The SB meetings organised were:

SB meetings			Participants (initials / <i>R</i> (represented))							
Events	Inviting partner	Date	KST	TBS	COSTET	SOLOS	AMPLITUDE	LASEA	PALA	CSL
Kick Of meeting	KST	21/10/04	MM SK JME	AS JS	XC	UV	EM	AK LD	FS JL	PL
WP1 meeting	KST	15/02/05	MM SK JME	AS	XC	UV	EM	AK GH	JL	PL
WP2 meeting	Amplitude	14/06/05	JME	AS	XC	UV	EM PR	AK	JL	<i>R</i>
WP3 meeting	Lasea	12/07/05	MM SK GD	AS	XC	UV	EM VV	AK GH	JL	PL
WP4 meeting	Costet	15/09/05	MM GD	AS	XC	UV ND	EM PR	AK	JL	<i>R</i>
WP5 meeting	KST	19/01/06	MM GD	AS JS	XC	UV ND	EM	AK GH	JL	PL
WP6 meeting	Solos	5/05/06	MM JBL	AS	XC	UV ND	EM	AK	JL	PL
WP5/WP6 meeting	Lasea	12/07/06	MM GD JBL NDW	AS JS	XC	UV	EM	AK GH PEM	JL	PL
WP7 meeting	Glasstec	24/10/06	MM GD MLA	AS	XC	UV	EM	AK PEM	<i>R</i>	<i>R</i>

	Deliverable No 8.7					Final Activity Report – Section 3									
	Proposal Number 512931					Proposal Acronym					NAGINELS				

IV TIMETABLE UPDATE

		MONTHS																								
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
WP1	Experimental validation of the specifications																									
WP1.1	Functional description of the engraving process for the 3 applications		1.1																							
WP1.2	Experimental tests for decoration applications and results interpretation				1.2																					
WP1.3	Experimental tests for antifraud applications and results interpretation				1.3																					
WP1.4	Experimental tests for normative applications and results interpretation				1.4																					
WP1.5	Summary of the main benefits					1.5																				
WP1.6	Risk management				1.6																					
WP2	Development of the new Femto laser source																									
WP2.1	Design of the new Femto laser source					2.1																				
WP2.2	Construction of the prototype laser									2.2																
WP2.3	First validation of the prototype laser on laboratory scale												2.3													
WP2.4	Support for the integration of beam control unit														2.4											
WP2.5	Risk Management									2.5																
WP3	Development and validation of the control unit and vision system																									
WP3.1	Design of the engraving control unit and vision system				3.1																					
WP3.2	Construction of the control unit									3.2																
WP3.3	Development of the vision system						3.3																			
WP3.4	Validation of the performances of the control unit using YAG lasers										3.4															
WP3.5	Evaluation of the key engraving characteristics using the prototype Femto laser											3.5			3.5											
WP3.6	Risk Management									3.6																
WP4	First validation with the Femto laser prototype																									
WP4.1	Integration of the laser source and control unit at laboratory scale														4.1											
WP4.2	Validation of overall process performance															4.2										
WP4.3	First engraving experiments allowing a comparison with what was expected from WP1																4.3									
WP4.4	Specifications of the fields test to be performed with real objects														4.4											
WP4.5	Risk Management														4.5											
WP5	Development of a prototype laser processing																									
WP5.1	Design of the prototype engraving system		5.1							5.1				5.1												
WP5.2	Construction of the prototype system using the new Femto laser and the control unit															5.2										
WP5.3	First validation using a set of referenced objects to be engraved																	5.3								
WP5.4	Support on the prototype at the beginning of the final tests																			5.4						
WP5.5	Risk Management									5.5																
WP6	Prototype validation of volume engraving																									
WP6.1	Final tests specifications																	6.1								
WP6.2	Final tests for decorative applications																				6.2					
WP6.3	Final tests for antifraud applications																				6.3					
WP6.4	Final tests for normative applications																				6.4					
WP6.5	Recommendations for the industrial units based on the final tests																							6.5		
WP6.6	Contribution to the Final Plan for Dissemination and Use of Knowledge																								6.6	
WP6.7	Risk management																				6.7					
WP7	Dissemination of results																									
WP7.1	Project Web site construction									7.1						7.1										
WP7.2	Specific paper publications																									
WP7.3	Concluding seminar on the project																									
WP7.4	Recommendations for the use of Femto laser engravings in the antifraud field																									
WP7.5	Risk management																									
WP7.6	Patent																									
WP7.7	Norms																									
WP7.8	Other press release & conferences																									
WP8	Project management																									
WP8.1	Coordination and strategic management														8.1										8.1	
WP8.2	Project management														8.2											
WP8.1	Strategic management														8.3										8.3	
Mn	Milestones							M1					M3	M2	M4								M5			M6/M7