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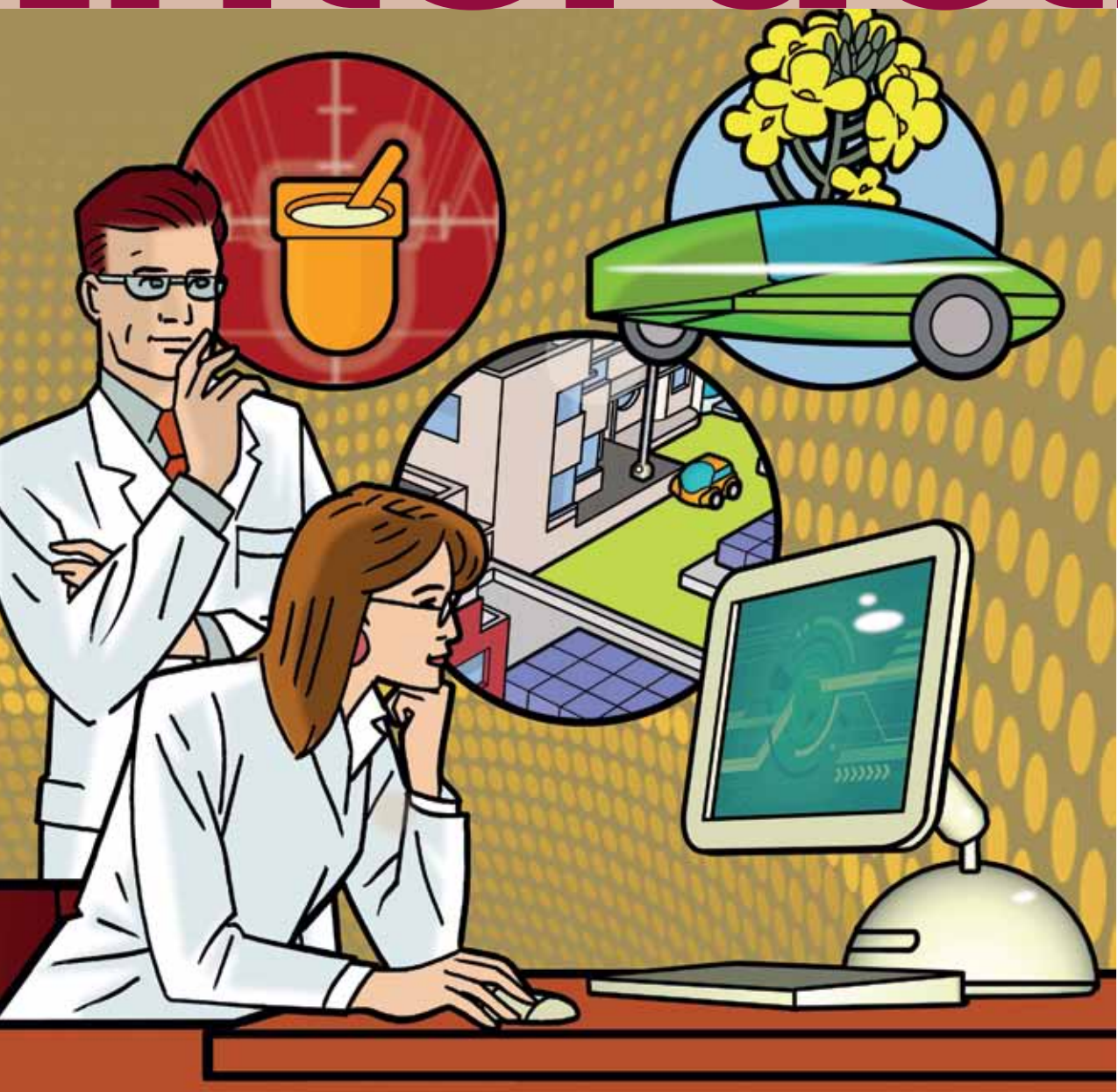
AUGUST/SEPTEMBER 2012 ### N° **18**

Donnons un sens à l'innovation

Interactions



Views on Innovation

Three questions for Minister *Arnaud Montebourg* *Page 8*

LES DOSSIERS

Those who create, invent and imagine *our future* *Page 5*

FROM THE PRESIDENT'S DESK

A major issue : upgrading and adapting our development model

A major, strategic issue: how should we upgrade our development model and at the same time safeguard our values, our culture and specific characteristics. Our economic, social, cultural and university environment has been undergoing far-reaching changes and evolutions over the past decade and this now makes it an opportune time for UTC to review the status and evolution of its economic model, integrating new constraints but also new opportunities as they arise: as we build up the European Higher Education (and Research) Area (EHEA), poles of competitivity, those embodied in recent French law, 2006 and 2007 that have largely modified the landscape of research and innovation in France (accentuating synergies between all the actors involved, and reinforcement of site-strong policies, establishment of the PRES , etc.) and of the autonomy and societal role of Universities, the research programming, selection and funding through the Government Plan "Investing for the Future", notably via the IDEX where UTC Compiegne has met with some considerable and recognised success, which strongly invite the universities to play their part in contributing to economic growth, wealth creation, added values, new activities … The extent and depth of these changes, associated as they are with economic, ecological and societal crises rocking the world's foundations are such that we are now facing possible risks of being destabilized, or strategically inconsistent, including loss or dilution of identity, of 'running out of steam' faced with mountains of admin. work and increased pressure on staff at all levels. To complete this somewhat turbulent panorama, we must cope with strong budget restrictions that may well grow over coming financial years. This is the general context in which UTC Compiegne recently organised an internal seminar (August 30) in the nearby town of Senlis and decided – on the basis of its establishment orientation plan and feed-back from earlier thoughts on the same themes - that the time has come to accelerate and accentuate the very fundamental question "What changes should be brought to the UTC Compiegne model faced with prevailing constraints and opportunities in its environment?" Some very interesting proposals came through the Seminar, including the fact that more thinking is needed and that the entire UtiCian community should be involved (the University's General Assembly in October will be largely given over to the theme). The syntheses of the seminar workshops have already underscore the role that innovation must now play in evolution of the UTC model; likewise the central question of manpower resources, in terms of attractiveness, added-value, recognition of merits and staff accompaniment … It was also clear that the coming UTC Innovation Centre – first stone formally laid on Sept.6 by junior Minister for European Affairs B.CAZENEUVE, in the presence of Senator MARINI, Mayor of Compiegne and Claude GEWERC, President of the Picardie Regional Authority. How do you Create, Invent and Imagine the Future? That is precisely one of the themes addressed in this issue of Interactions.
I wish you all a great start to the coming academic year. ■

Alain Storck
Président de l'UTC

The first stone of the UTC Innovation Centre was laid in the presence of the Minister in charge of European Affairs

The ceremony of laying the first stone for the UTC Innovation Centre took place on September 6, 2012, in the presence of Bernard CAZENAVE, Minister Delegate for European Affairs. This new Centre will be the support structure for UTC's local innovation eco-system and will combine research activities, training, added-value processes, integrating and accompanying the University's innovation process in managing collaborative partnership projects ■

First university term for computer science apprenticeship trainees

After inaugurating apprenticeship programmes in 2008 for mechanical engineering, UTC is now offering a similar scheme for apprentices in computer sciences and engineering. Two specific pedagogical streams have been opened "software design" and "computer infrastructures and systems", oriented to computer systems and networking. ■

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A different 'brand' of engineers

The first class of student-engineers matriculated for the option "Humanities and technologies" have begun their courses. Programme designers here had imagined anticipating on a world that is constantly changing and on new expectations and demands from enterprise; this is also a "first" for a university to propose a combination of an engineering school, with 'bachelors' (holders of the French baccalaureate) from the S-stream (sciences), from the L-stream (literary + maths) and from the ES-stream (economics and social sciences). This course will enable the students to develop not only their analytic and conceptual skills but also the capacity to better understand the interactions between mankind-society-technologies. ■

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'INVEST FOR THE FUTURE'

Innovative training for SMEs / SMIs and Territory

The InnovENT-E Project, in which UTC Compiegne participates, was designated laureate in the Government plan "Invest for the Future" in the category of innovative training initiatives (IDEFIs). Interactions interviewed Jean-Louis BILLOËT, Director INSA-Rouen and Managing Director for the InnovENT-E IDEFI Project.

What exactly are the needs addressed by the creation of InnovENT-E?

The InnovENT-E Project will contribute to increasing the offer of high level 'talent training' (for executives, managers, young engineers and PhDs) and to develop skills of technicians and other intermediate management bands thereby meeting the demands of innovative SMEs/SMIs who want to enter and develop export markets and international activities in general. Moreover, our project aims at improving the knowledge base and the attractiveness of SMEs/SMIs for HE students and, reciprocally, to create strong links between innovative SMEs/SMIs and the institutions of higher education in relation to strategies for territorial, regional development.

> to provide SMEs and SMIs with a set of skills they can adapt to face the international pressures

Territories and SMEs seem to be the key words of InnovENT-E

The idea firstly is to provide SMEs and SMIs with a set of skills they can adapt to face the international pressures. These skills will be creative, audacious and open to the realities of the outside world. InnovENT-E will serve to counter-balance training courses better adapted to major enterprises or administrations than to the SMEs and will enable the latter to access innovative pedagogical materials relying on multidisciplinary research related to corporate innovation and globalisation. Today these activities are not sufficiently well organised or mutualised to serve efficiently the needs of outlying SMEs.

What solution(s) assure building efficient territorial links?

To ensure that the actions engaged will last, we plan to set up an institute with 'open' training courses specific to the development of innovating SMEs/SMIs involved in export activities, with a partnership foundation, aimed at continuously improving the modules, their distribution, dissemination and their updating/upgrading. These professional and diploma training modules can be accessed by all SMEs/SMIs, with a close intermeshing of the country that corresponds to the geographic locations of the founder members, extended to new partners such as the competitivity poles, certain industrial/service sectors, chambers of commerce and industry (CCIs), the Regional Innovation Agencies (ARIs) and other training partners specialists of areas such as management, economic intelligence, the inter-cultural dimension, design, export, etc. ■

*** The project is supported by the network of Universities of Technology (UTs), by the INSA Group, the University of Lorraine and by the CESI.**

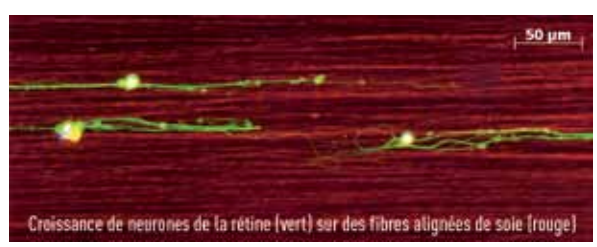
The complete interview is on www.interactions.fr

BIO-INTELLIGENTS MATERIALS

Is it possible for *nerve cells to be regenerated ?*

The UTC BMBI Laboratory has recently imagined a so-called bio-intelligent material composed of silk fibres that have the biological capacity to regenerate damaged nerve cells, as follows.

In bio-medicine, there is no bio-material known today than provides for efficient nerve repair after damage or crushing. "To be more accurate, if biomaterial have been developed to help in repairs to peripheral nerves, the regeneration of central nerves such as the optical nerve or those in the spinal cord still represent a major challenge", says Christophe EGLES, senior research director with BMBI. This UTC Lab is engaged in a research project to develop a new kind of soc-called bio-intelligent material, composed of silk fibres, that spatially direct the nerve as it grows again and dispenses growth factor molecules that help the regeneration process per se. "The silk fibres, a biodegradable and biocompatible polymer are first of all woven in an electric field using an electro-spinning technique so that the fibres align themselves in a predefined orientation," explains Guillaume VIDAL who is doing post-doc studies with the UTC BMBI teams. "The fibres are then given bio-functional properties, with the addition of one or several growth factor hormones." Currently, the BMBI, collaborating with the Institute of Cellular Neurosciences, Strasbourg, with the University of Leipzig (Germany) and the Tufts University (USA), has reached the point of demonstrating that axon regeneration of retinal nerve cells can be stimulated by applying this nanotechnology*. In vivo test under way with rats could shortly lead to a new biomedical therapy, completing the existing therapies for neuro-degenerative eye illnesses or trauma. ■



Croissance de neurones de la rétine (vert) sur des fibres alignées de soie (rouge)

*** The results were published in Advanced Functional Materials**

INTERVIEW

UTC /SAFRAN

a marriage of *training* and *innovation*

UTC Compiegne and the major industrial Group SAFRAN signed a partnership agreement on June 15, 2012 that underscored the desire of both parties to join forces on a long-term basis and to establish a joint strategy to co-ordinate the relations between the engineering school and industry, in the fields of research, training, innovation and international affairs. Interactions interviewed Benoît GOSSET, Director of Manpower Resource Development at the SAFRAN Group.

Can you give our readers a short overview of the SAFRAN Group?

SAFRAN is a high-tech. international industrial consortium, a world class equipment makers with three main poles of activity: aerospace (propulsion units, on-board equipment), defence and security. The Group has locations on every continent, in over 50 countries; it employs some 60 000 staff and showed an annual sales income of 11 736 Meuros for yr. 2011 (net income 644 Meuros).

We see that SAFRAN is engaged in R&D work with an overall investment of 1.3 billion euros, for yr.2011.

Yes indeed, SAFRAN devoted 11% of its annual income to R&D, and called on the skills of 450 PhDs and 150 PhD students. There are numerous challenges ahead, such as reducing propulsion unit consumption figures, protecting the environment, compliance with new and important safety requirements … these apply to all three sectors. It is for these purposes that the Group enters partnership agreements with public research establishments, with engineering schools and universities, both in France and elsewhere round the world.

Why would SAFRAN be particularly interested in UTC Compiegne?

What we first did was to consult all the companies that from the SAFRAN Group and we asked them to identify those engineering colleges that would be appropriate targets to consolidate relations, in the areas of training and research. UTC Compiegne was rapidly singled out as relevant. UTC engineering graduates display excellent capacity to adapt to situations; they are pluridisciplinary and have a culture, technically speaking, far beyond their specialties in engineering. Indeed, we have recruited many UTC graduates to SAFRAN, in fields such as mechanical engineering, acoustics, computer sciences and manpower management questions.

We note that the partnership agreement between UTC Compiegne and SAFRAN also covers research and innovation activities.

Quite true; one of the advantages of UTC Compiegne lies assuredly in its applied technological research capacity and it operational modes that I personally see as 'open-innovation'. The technological skills we are looking for are very varied, as you can well imagine. But the Roberval Laboratory has already been identified as a potential partner for research activities, especially in acoustics and composite material engineering.

What is the focus of research at SAFRAN?

There are numerous focal points. The SAFRAN Group is faced with a growing number of new civilian and military aircraft propulsion units. Perhaps I should recall that the aeronautics sector is one of the few that is not concerned by the present, global economic crisis. Our manpower policy is directly related to this situation, and must be seen, on one hand, as a recruitment problem and, on the other, a question of maintenance of skills.

What exactly do you mean by maintenance of skills?

The lead time to develop certain aircraft engines is somewhere between 5 and 10 years, before we can envisage moving to a batch production phase or to market the engine. Other engines – and we're currently working on a few – will only be ready in 2025-2030! The SAFRAN Group is working on very high technology products, but which have a long operational life expectancy. In this way, a young engineer who joins SAFRAN today will be designing engines that will be commissioned for service in about 40 years' time. At Group management level, our concern is to maintain the skills needed and to have a turnover close to zero; that way we can hope to keep our engineers and their skills within the Group, by offering them in particular real prospects for career evolution, promotion and mobility.

What are the challenges for the SFRAN Group in terms of manpower management?

Well, until about two years ago, the manpower policies were defined and handled differently in each subsidiary of the Group, and to be honest, there weren't many crossover paths in terms of resources and learning experiences. The challenge therefore consisted of defining and implementing recruitment, mobility and career policies at Group level. For training and skills development of our staff, we created the Safran Corporate University, in order to accompany major corporate changes (mergers/ acquisitions, for example), development of leadership skills, talent hunting...

What is the current recruitment policy of the SAFRAN Group?

The Snecma-Sagem merger only took place in 2005, so the SAFRAN Group is relatively young and probably for this very reason less familiar to young engineers than other major industrial groups.. Our primary task is therefore to make ourselves known to these generations of recently qualified graduate engineers. This coming year, we are looking forward to recruiting 6 000 employees, ¾ of whom will be qualified graduate engineers. ■

KEY-FIGURES FOR SAFRAN YR. 2011

OVER 60 000
EMPLOYEES ROUND THE WORLD

11 736 MEUROS
ANNUAL SALES INCOME

1,3 Md€
INVESTISSEMENT IN R&D

A move to create a UT Group (Universities of Technology)

The three French Universities of Technology (UTs), viz., - UTBM Belfort Montbeliard, UTC Compiegne and UTT Troyes – have decided to reinforce their historic partnership by establishing a UT Group. The statutes and missions of the UT Group have been approved by the boards of the three university institutions. Several ad hoc standing committees have been instated (pedagogy, international, innovation, communication). ■

How should we stimulate the local innovation ecostytem?

With the support of various Picardie Region partners, a cabinet for organisation and management advice was chosen to help us develop the local innovation and creativity ecosystem. The objective of this contract is to increase the density of university/enterprise/territorial partnerships and to increase the visibility and attractiveness of this territory. ■

UTC Compiegne and its local environment opportunities

The so-called enlarged board of UTC held a seminar last August in the nearby town of Senlis to reflect together on a strategic question: evolution of the UTC model in the face of constraints and opportunities of its environment. The objective was to exchange on the theme of a development model, based on the institution's overall strategy as a university and its pioneer role, a model integrating the new constraints and opportunities of UTC's academic, cultural and economic environments. ■

Highly efficient poles of competitivity

This summer (2012) the final assessments of France's 71 poles of competitivity were presented to the Government. The world class poles IAR (Industries and Agro-resources) and i-Trans (sustainable transportation systems), in which UTC Compiegne is a key player rank among the top 20 poles, deemed "highly efficient" (which is the highest ranking band). This high-level recognition rewards and supports the Picardie regional innovation strategy set in motion as of 2004. ■

plus d'infos **www.cr-picardie.fr**

UTC Compiegne and Peking University in a joint multimodal venture

Last July, UTC Compiegne hosted the first summer workshop between its Heudiasyc Laboratory and the Key Laboratory of Machine Perception of the Peking University cf. http://english.pku.edu.cn/ (PKU). Both institutions have already invested in joint research projects. This first workshop provided the opportunity to present some of the collaborative work done by both laboratories and the exchanges of research scientists on the topics of perception, reasoning and interactions involved in multimodal systems. ■

RESEARCH

Phebus gateway to the future

UTC Compiegne and the CETMEF (acronym for Technical research centre for maritime and river transportation) launched their joint team PHEBUS in June 2012, with the following research topics: physical modelling and cartography applied to sustainable management to port and river based cities. One of the objectives is to imagine and design the port of the future.

Modelling and mapping out the "Port of the future"

Producing renewable energy, optimising and sharing energy consumption, sustainable land management … these are some of the activities that concern the urban milieu, the implementation of which requires both good knowledge of the land space involved, and the geographic and physical capacity of the phenomena, plus the tools for concertation and involvement of various actors in the decision chain. "Moreover, cities and especially those in port or river situations appear today to have advantages when it comes to installing facilities for renewable energy, thereby extending them and improving on their efficiency factor", explains Jean-Louis BATOZ, director of the UTC AVENUES-GSU Laboratory. The potential to capture solar energy is high given the surfaces available, but could also prove attractive since production and consumption sites coincide, reducing line losses and ensuring better efficiency. The Port of the Future therefore will be in position to take advantage in an optimal manner of urban potentials. There is, however, a prior need to model these and to map them accordingly.

« Cities in port or river have advantages to installing facilities for renewable energy »

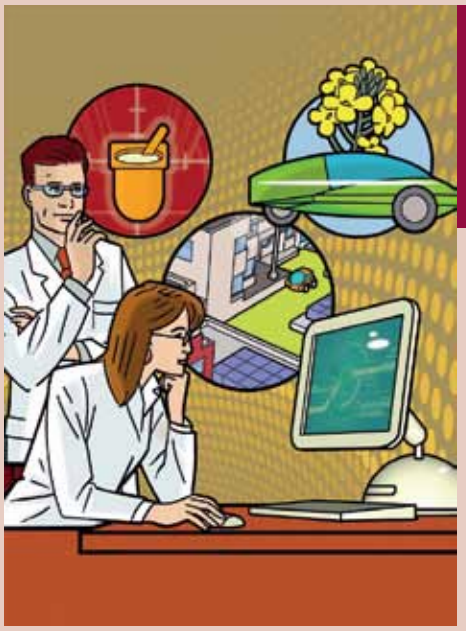
PHEBUS: a unique brand of collaboration unique taking into account sustainable development in an urban milieu

It is with this objective in mind that UTC-AVENUES-GSU and the CETMEF decided to set up a joint team for research. The CETMEF – a technical service of the French ministry in charge of Ecology – is regularly engaged in national level studies about implementations that follow suite to the so-called Grenelle laws on the environment. The latter were framed and adopted for the purpose of providing coherent, national responses to currently observed environmental issues. The UTC AVENUES-GSU team have always been interested in multi-scale and multi-physical modelling for buildings, adopting pluridisciplinary and systemic aids to decision approaches for sustain, able urban developments. Collaboration between UTC and the CETMEF, in the form of the PHEBUS* should lead to the development of tools for digital and physical modelling used to analyse spatial configurations and associate data to gain better knowledge of the territories involved and better communication among the various actors.

Innovative solutions for energy procurement and risk management

In a wider context, PHEBUS proposes innovative solutions « for clean, sure energy procurement, improved safety factors for persons faced with natural and technological risks, contributing to the economic development and better ecological and social visibility of future urban port schemes", underlines François HISSEL, Scientific Director in the "Simulation, Computer Science, Modelling" Department with the CETMEF and co-Director for PHEBUS. Several research themes have already been chosen and initiated: improved production processes for renewable energy sources, energy use optimisation in buildings, harmonising urban planning tools, control systems for risks in the context of climate change. ■

*** Urban Physics, Energy management mapping for maritime or river side cities.**



They create, imagine and invent *our future...*

Many engineers and PhDs that graduated from UTC Compiegne have become research scientists or entrepreneurs. So what do the have in common? They represent the motors for innovation, each and every one of them in their specific speciality … here are some thumb-nail sketches of the actors.

COMPUTER SCIENCES

This one reads *the future via social networking*

Alain LE BERRE, a graduate engineer from UTC, co-founder of Linkfluence, which is a recent start-up specialised in finding integrated solutions for cartographic problems; monitoring software and sociological analyses of the Internet. But more than this, Linkfluence has in less than 6 years become a self-standing research institute.

How would you define Linkfluence, in its role as a recognised "2.0" research institute?

Linkfluence firstly represents exploration, analytical, web site visualizing technology with the capacity to analyse structures and content, and where cartography is only the visible part of the iceberg. But Linkfluence is also and opinion polling and marketing company with special software named Radarly offered as a 'software as a service' (SaaS), which is a platform to manage social media for community managers and enterprise leaders alike.

How could studying exchanges via the Internet, seeking to interpret and understand varied political opinions, have become relevant through time, even inescapable?

If we are seen today as pioneers of social/political web site traffic, this only represents a fraction of our activities, somewhat seasonable since our methodologies allow our clients to follow up opinion trends at a national level. In contradistinction, analysing spontaneous speech exchanges (chat) between Internauts in order to allow companies to "position" the speakers, to optimise their products or communication has today become an inescapable method used to better understand public opinions or market trends and represents the main-stream part of our business activities. Outside electoral periods, we continue to work on people's opinions and assess public policies, thereby getting a feeling for territorial specifics through the way the communicate (digital voice-prints). In this way, after studying the Picardie Region on behalf of the Regional Authority, or the city of New York in 2010, we shall soon be investigating web patterns and trends in Greater Paris, in the framework of the DynamiCité Project. This project, moreover, will be conducted in a partnership with

UTC Compiegne and Xerox Lab, with financial support from the bank Caisse des Dépôts et Consignations.

Among your clients, you have several ministries and major industrial groups, backing traditional opinion polls, panels and focus groups. Do you think the future can be read in social networking?

A good experience to have a foresight look is to google "2050". That brings up the future or rather a list of events programmed for that particular year, along with a number of predictions, some of which a shade "nutty", or "over the top", you might say! Beyond the real-time factor of the web – which consists of understanding and representing a given situation and providing to tools to react appropriately - our work lies more in the diagnosis and the prospective approaches. The idea is to make an accurate status report at time T or to identify trends, low level signals or to draw from a mass of opinions collected via the Internet those points of singularity or determining factors which, when compared with market aspects, or job criteria, will reveal deep-reaching trends in behaviours or in the way we forge our opinions and trends. This is the truly strong area of Linkfluence, even if we are interested in studying the modelling of long-term trends, such as the way information will travel through a network, for example.

What is the innovation strategy of Linkfluence, 6 years after it as launched?

Well, firstly, our innovation strategy consists of consolidating our position in the market-place by integrating all the know-how we have accumulated and assimilated over 6 years in all our products .It is more through an innovation in the way people use technologies that will help the analytical work carried out by our personnel and that of our clients at every level. In parallel, we are working on increasing our capacity and processing power to handle very large amounts of data. It is our intention to multiply our performance figures, in terms of the volume of data handled, tenfold over the coming 6 months. ■

http://fr.linkfluence.net

SUSTAINABLE DEVELOPMENT

And this one developed

the first energy-wise, smart city precinct

Eric L'HELGUEN, who graduated from UTC Compiegne, is CEO for EMBIX, a company offering energy management solutions for eco-precincts, university campuses and other industrial sites.

Global warming, increased costs for energy, reduced CO2 emissions... our cities today are faced with both economic and environmental challenges on a large scale, and energy procurement/use plays an important role here. Thus, in a context with new energy regulations appearing at EU level between now and 2020, renewables are being multiplied.
The recent arrival in urban environments of renewables and new storage facilities, together with increase ecological sensitivity, have made it all the more important to properly control energy questions and performance. Embix, which came from a subsidiary merger agreement between Alstom and Bouygues Immobilier "proposes an integrated set of solutions and services designed to reduce electricity bills by acting on consumption and control of energy expenditure in general.", explains Eric L'HELGUEN.
How does Elmix come in? In fact its used the latest technologies in a smart grid philosophy, i.e., it relies on intelligent networks capable of absorbing large quantities of renewable energies, while ensuring maximum grid security. "Intermittence is a feature of renewables that calls for intelligent control" confirms Eric L'HELGUEN. What we can readily observe is a growth in the number of energy intensive services in urban areas, and example being the electric car, and we know the consumption of each car is a random factor. Future electric networks must be made ready to handle these new services, whilst making provision for increasing accurate electricity demand forecasts.

> China and Qatar are already looking to the solutions proposed by Embix

Alstom, with its recognised expertise notably in energy supply control; systems and safety fcator for micro-networks – chose to join forces with Bouygues Immobilier, a world leader in building construction, the resulting organisation being in a position to propose optimised solutions and higher performance energy control at both building and urban scales. "In this framework, in 2012 we imagined IssyGrid, the first smart energy city precinct in France", explains the CEO of Embix. The "quartier" in question is in the Paris suburb of Issy-Les-Moulineaux and is a site obeying a triple logic: consume better, integrate renewable power sources and optimise energy management functions".
And the challenges are numerous if we adopt a sustainable development stance.
The first challenge is economic, viz., to limit over-investment in infrastructures. The second is environmental, viz., reducing energy consumption and the negative impact on the environment. Third challenge - the societal aspect, by improving life-styles, mixity and social integration in these eco-precincts. On the same model, several new towns in China and Qatar are already looking to the solutions proposed by Embix. They will be among the first smart cities of tomorrow … ■

ENVIRONMENT

And this one imagines

bio fuels for tomorrow

Jacques BITON, a UTC Compiegne graduate and Managing Director of Deinove, is busy imagining the production of more efficient bio fuels, fuels that will respect environmental constraints better.

Just imagine for an instant that the future of bio fuels may lie in a simple, naturally robust bacteria adapted to industrial processes. For the time being, the so-called first generation bio fuels such as bio ethanol come from fermenting glucose, the latter being obtained after several pre-treatments and enzyme hydrolysis of biomass components such as obtained from beetroots, wheat, corn and sugar cane … "Deinove have decided to make the best of the exceptional capacity of a bacterium called Deinococcus radiodurans Using deinococcus allows us to change the paradigm for producing bio-fuels" explains Jacques BITON. The deinococcus has several attractive features, first of which is its ability to digest not only glucose but also a part of the biomass that is not directed fermented such as residues that we classify under the title of lingo-cellulose raw materials (forestry wastes, straw, beetroot leaves). "Deinococcus bacteria are not only capable of digesting simple sugars, but also complex polymers that we find in plant biomass but can be turned into true bacterial factories to value-add plant waste into industrial products", underlines Jacques BITON. "Among living matter Deinococcus best resists radiation, physical damage and chemical attacks. They can for example resist a radiation dose 50 000 times higher that the lethal dose for a human being. This bacterium is an excellent choice for the often drastic condition found in industrial processes". The bacterium was discovered in 1956 when experiments were under way to see if food cans could be sterilised by intense gamma radiation. The deinococcus has a special cell structure that allows it to regenerate its genetic material and resuscitate only a few hours after dying. "A can of meat was exposed to a radiation dose seen as high enough to kill off any form of life," adds Jacques BITON. "One bacterium, the deinococcus, survived". Half a century later on, Déinove was established in 2006 to exploit this survival property and to develop innovating, ecological and economic industrial projects in the field of bio-fuels and green chemistry, by producing compounds that could prove, on one hand, attractive to industry or pharmaceutical sectors and, on the other, with better intrinsic performance and more respectful of environmental constraints. To be continued... ■

INDUSTRIAL DESIGN

The inventor of the *new Danone yog. pot*

The world leader in dairy products has just redesigned its yoghourt pot. The new version, called the KISS* was imagined by the Danone Produits Frais France (DPFF Division), in a project managed by Vincent FERRY, UTC Compiegne graduate in charge of packaging developments. Interactions met and questioned Vincent ….

A familiar and acceptable way to present you is as the inventor of the new Danone "yog. pot". So what are its specific characteristics?
The new pot embodies lots of innovations. Firstly, its circular shape improves the 'spoonability'. In other words, you can push the spoon right down to the rounded bottom. The KISS pot also has two opening options, one for right-handed people the other for the left-handed. This makes it easier to open for everyone.

We see it took no less than a year, together with 6 other engineers to imagine this new package.
Companies often dream of "fast track innovation", but they do not always readily accept the fact that they have to call into question the way we think and the way we make things. So, even if it only took a few weeks to come up with the new basic shape and its architecture, the project as a whole, starting with having the project approved, took several months to complete.

You have just used the term 'architecture' – is this appropriate?
Indeed, yes. I see myself, not as a designer, but as a packaging architect, somewhere half-way between the engineer and the designer.

Apart from a considerable impact on the Danone production lines, do you know if the new package has had any effect on yoghourt sales?
Well, think that those few grammes of packaging can change Danone's image round the world. In France, we hope to see a sales increase of some 5%. Again, if we limit ourselves to France, we are talking about 4.5 billion 'yoghs' a year, which represents 12 M pots a day, 65% of which will be KISS pots. In the long run, we shall be marketing 8M KISS pots a day in France.

In France, we hope to see a sales increase of some 5%

You, Vincent, are not a beginner here – we see your name is associated with Doypacks®** and Domes of Sheba®***.**
True. My passion, so to speak, for packaging came when I was still at UTC Compiegne in a design competition the aim of which was to improve day-to-day life objects. I chose the theme of the waste-bag, and proposed an automatically closing bag, which actually went on the market place two years later, as the HandyBag®. Since then the self-close concept has been largely developed …

And your next « product » will be …?
I have lots of ideas, but I'm sorry, I cannot reveal them today. I often find myself repeating that the crux of the matter is not to find the idea, but more to identify the problem … The truth was that nobody had thought about yogh. pots for years, so the field was open and hence all the more attractive to me. ■

* Keep It Simple and Safe
** Doypack (DOYen PACKaging)
*** a well-known brand of cat-food

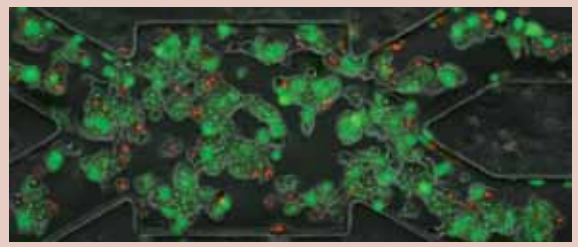
BIO-ENGINEERING

Predicting *toxicity in products*

Éric LECLERC, a research scientist with the UTC-BMBI Laboratory is currently carrying out research on cellular labs on chips.

Cosmetology, pharmaceuticals, chemistry … these are areas of research in which the development of new substances, new molecules requires that they be tested in vivo, i.e., on living cells. "The traditional way to do this, for example, was to use Petri dishes or to proceed in vivo with live animals.

This led to both ethical and economic problems", explains Eric LECLERC, a research scientist with the UTC-BMBI (biomechanics and bio-engineering) Laboratory. So, how were we to improve the in vitro approach to obtain more relevant biological responses, or to predict as accurately as possible the degree of toxicity of certain molecules? Classical methods are not sufficiently efficient and do not represent the complex organisation of an organ; on top of this, there can be a loss of properties that are induced by blood flows. Thus, since 2001, Eric LECLERC has been working on design aspects of micro-systems and cellular micro-fluid bio-chips that would lead to an in vitro reproduction, using an extremely low number of cells, the conditions needed for an in vivo cell culture. "The idea is to make a miniature reproduction of tissue functions or organs in a bio-artificial manner. Moreover, industrial constraints, as are set out in the EU REACH Directive, are such that they require analysis of a great many molecules, or an important concentration level of products. To answer this challenge, we therefore started working on a device



(box form), that incidentally has been registered under several patents, which allow you to install up to 12 labs on chips an d to test their contents in parallel and/or several types of cell simultaneously, or again a single cell under varying conditions". This innovative project carried the code name IDCCM standing for "Integrated Dynamic Cell Cultures in Microsystems", and has recently been presented, in a partnership with INSEAD to the investment committee of a SATT (acronym for a technology transfer acceleration company) called LUTECH who have UTC Compiegne as an academic partner. "Two INSEAD managers were put in charge of carrying out a market study and the establishment of a business plan for our concept/product" adds Eric LECLERC, optimistically. To be continued... ■

LES DOSSIERS

PROSPECTIVE

The future of research

is called into question(s)...

According to André-Yves PORTNOFF, Director of the Intelligence Revolution Observatory is a consultant in prospective studies and strategy for whom creativity and building of human relations will be absolutely necessary tomorrow for the development of any innovative actions. Interactions met him recently …

You often remind us that an innovation is not the same thing as a discovery or an invention. So, can you tell again, what constitutes an innovation?

In short, an invention is a solution to a problem, sufficiently novel to possibly merit a patent registration, but not necessarily efficient. Innovation results from an idea that may be more or less recent but which leads to a real application. In fact the definition or qualification of an innovation must include an application, to be implemented by customers in the market place or by some segment of Society, in a larger connotation. From the point of view of an entrepreneur, we can also assign another definition; you innovate when you change in order to remain in business and competitive in a changing context.

« you innovate when you change in order to remain in business and competitive in a changing context »

To what extent is innovation not the linear follow-on to research?

There is a solid legend that innovation is the result of a linear process running from the most basic, sky-blue research. Many research scientists become furious if anyone dares attacks the legend. They are the sort of person who ignores the history of techniques and technologies. Let's surmise a moment on a sad case in point: that of Kodak. The company had all the know-how and the capital assets well before 2003 to move from silver-salt roll film into digital film/cameras. The company did not make the move, given that they did not want to relinquish the fields on which their entire trade history was based. Just 9 years later, the company went bankrupt since they had refused to innovate. It was not through lack of knowledge/know-how but simply they did not have the vision, nor the will-power to shift in policy orientation. Let us not forget either the generic case of stainless steels, the non-corrosion properties of which were in fact not recognised until years had passed and were certainly not the target of the iron/steel development of that time. Research is often very useful to improve an innovation or to widen the scope of its applications. But the crucial ingredient is curiosity, a sense of observation and empathy to imagine and envision what others are ready to use, and to finance.

« An innovative enterprise must embody a manpower management practice such that it encourages them to observe, to experiment wit new ideas, to take risk »

You also state that innovation in the future will be less technology-intensive and more managerial and that success in this area will depend largely on the trust we place in people and in long-term visions. Why is this so?

We are no longer living in the so-called 'Glorious Thirties' (1946 – 1975) when consumers could (and did) buy everything the market proposed. The consumers have become more demanding, for two reasons: freedom of choice is growing everywhere and Internet (and other communication forms) allows them to join forces and pressure the sellers. Moreover, the demand trend is to more and more tailor-made products, higher quality, and being all the more sensitive to the effects of the ongoing economic crisis. Hence the importance I attach to empathy. What the client buys is not just a set of technical functions, but also what these functions bring with them. We are talking about, service aspects about an immaterial vision. Our technical skills are necessary but we must be able to use them to translate expectancies - often latent or even unexpressed - into practical solutions. What people buy are the quality of our customer service and the associate expectations. An innovative enterprise must embody a manpower management practice such that it encourages them to observe, to experiment wit new ideas, to take risks. Management based on trust implies that the stockholders will accept a long term development strategy.

What roles will be assigned to engineers and to technologies in the future?

An engineer today cannot restrict his world to technicalities, given that nobody can achieve anything alone these days. He/she must therefore develop human capacities, talents … They must collaborate. An engineer must also develop his personal qualities and talents; in a sense, his job is more akin to that of the talented orchestra conductor. And this implies that he/she adopts a systemic, non-Cartesian view, inasmuch as real problems are really complex, whether we like it or not. Prof. Daniel THOMAS [UTC] and myself have demonstrated how things can go wrong in the case of biotechnologies when the vision is too linear, binary and leads on to serious technical, human and financial difficulties. Everywhere we look we can see the same need for a systemic vision. In short, engineers will defend the aims of technical matters and innovation if and only they does not restrict their job to being just an excellent technician and go on to fully accept their role as managers, displaying open minds, will-power, pedagogy and a gift to listen to others.

Can Europe, in your opinion, become the continent for innovation? If your answer is "yes", how can this arise?

History teaches us that the most creative territories have been crossroads, spaces or places where cultural differences can meet and mutually value-add to each other: in earlier times we had Alexandria, the free communes of the Italian renaissance, England and France in the century of the "Lumières" (the enlightened"), that coincided with the Declaration of Human Rights. Being tolerant, accepting other peoples' differences is the sine qua non of creativity in every field and hence applies to innovation too. Europe is THE continent that has made most efforts to be tolerant, to defend free speech in its layman States, each highly multicultural in its origins and ethic roots which are necessarily cosmopolitan. We live in a land-space where Chopin and Marie Curie could give wings to their genius, where the Germans and the French, after 5 centuries of war have learned to peacefully build the embryo of the United States of Europe. If we can see our way, with pride and conviction, to build on our cultural treasures, on our humanist values, we shall rapidly become the flagship continent of innovation in the word. And in doing so, it would not be to the detriment of anyone or any country but would be with all those who place their bets on Humanity. ■

http://ayportnoff.wordpress.com/

D.THOMAS with A-Y PORTNOFF, Rethinking biotechnologies, [Repenser les biotechnologies]. Coll. Bilingues Perspectives. Futuribles. 2007.

Innovations : projects for tomorrow

Each issue will focus on one or several technological innovations that will contribute to building, shaping tomorrow's world. If you too would like to inform us of your own innovative projects, please contact : communication@utc.fr

crédit photo CWALTER

How the French Government sees **innovation**

Arnaud Montebourg, Minister in charge of Productive Rehabilitation [Redressement productif] in the J-M. AYRAULT Government, gives his views on Innovation to Interactions.

You are one of the main actors behind the Government plans to orient industrial development. What position do you assign to innovation in terms of the competitivity of French enterprises?

Innovation is one of the motors we need to get out of the present crisis, in an industrial odyssey currently implemented by the Ministry for Productive Rehabilitation. Innovation must be seen at the heart of the strategy followed by every company in France since they must innovate if they want to grow and export. Our future growth in France will depend on our capacity to encourage the emergence of break-through, scientific and technological progress, or in marketing and organisational management. Breakthroughs and progress must be accompanied by people meeting people and on diffusion and circulation of ideas. Innovation presupposes that a need in confronted with a novel way of doping things. Developing and funding applied research does not spontaneously lead to creation of commercial success stories: on the contrary, we must create ecosystems that are conducive to the creative process, and these must be framed in long-term projects. France is facing a long-term challenge that will benefit future generations. In the USA, for example, 20% of the economy is due to 'actors' who did not even exist 40 years ago.

I am convinced that we must not follow world trends blindly

UTC-Compiegne is a major stake-player in two poles of competitivity and is a recognised laureate in several "Invest for the Future" facilities (IEED, Labex, Robotex, IRT…), in particular in the areas of plant chemistry, robotics, or system systems … How do you see these tools and are they, in your view, appropriate levers to induce innovations?

The State programme "Invest for the Future" provides strong incentives for innovation. . The poles of competitivity also allow the actors to strongly accelerate the implementation of innovative actions and growth of enterprises. Our Government intends to reinforce these initiatives, so that they go beyond the level of "R&D project factories" and become "future project factories". Beyond these tools, the State must also rediscover its strategic role and contribute to design of products for tomorrow, to the discovery of market slots in which the country could very well become an economic world leader.

UTC Compiegne has created an innovation centre that aims at implementing a local ecosystem where students, industrialists, lecturers, research scientists, associations … can all meet and exchange. What would you, as a Government Minister, expect from a University of Technologies such as ours, to help stimulate and develop innovative projects even further?

First of all, I would offer that you should pursue development of your eco-system, in order to maintain your dynamics and your vitality. I am convinced that we must not follow world trends blindly, but we should prefer to identify those technologies and market slots that can benefit France, those that we can use to develop French activities. If we do this, we have a chance to rehabilitate the country's economy.

www.redressement-productif.gouv.fr

DID YOU KNOW THIS?

Thirteen projects, under the heading " Mutualised Innovation" Platforms (PFMI), connected directly to the poles of competitivity, were recently selected in the framework of the Government "Invest for the Future" programme.

L'AGENDA

Séminaire du Labex MS2T
25 septembre 2012

Le prochain séminaire du laboratoire d'excellence "Maîtrise de Systèmes de Systèmes Technologiques" (MS2T) accueillera Emmanuel De Langre, professeur associé à l'École polytechnique, qui donnera une conférence sur le thème : Flow-plants interactions, ecology and biomimetics: simple ideas on complex coupled systems.
www.utc.fr/labexms2t

Concours de projets innovants
27&28 septembre 2012

Envie de passer en mode innovation ? Le centre d'innovation de l'UTC organise la 4ème édition de son concours de projets innovants dans les domaines des sciences et technologie, société, culture, art…
www.utc.fr

2ème édition de l'UTCéenne
28 septembre 2012

L'association étudiante Étuville organisera la deuxième édition de l'UTCéenne au Parc Astérix le 28 septembre prochain. Cette année, la soirée aura pour thème : les Jeux Olympiques.
http://assos.utc.fr/etuville

Séminaires SACRED
Octobre 2012 à février 2013

Le laboratoire COSTECH de l'UTC organise une série de séminaires "Approche Communicationnelle des REcherches sur les Données" (SACRED) consacrés aux enjeux théoriques et aux pratiques de recherches portant sur la libération de données en ligne.
www.utc.fr

Qualita 2013
19 au 22 mars 2013

L'UTC et RUFEREQ organiseront à Compiègne le 10ème Congrès International Pluridisciplinaire en Qualité et Sûreté de Fonctionnement. Soumission des articles : jusqu'au 30 octobre 2012.
http://qualita2013.sciencesconf.org

URBAN SYSTEMS

Polyv'îles : a city, islands, a sustainable concept

A team of UTC student-engineers won the 7th edition of the Ingenieurie du Futur Prize [engineering the future] with their project to imagine an eco-city for the future.

So, what will the metropolitan entity of the future be like? "Well, it could look like our Polyv'îles project" asserts Edouard NICOLAS, whose project it was. A group of a dozen student engineers (in the urban systems elective at UTC Compiegne) thought up the project for a competition by Syntec Ingénieurie. Polyv'îles is an eco-city, straddling the sea and the neighbouring land and consists of a string of floating islands positioned like alveoli, like those you find in a bee-hive. By preserving the agricultural land and natural reserves of the continent, Polyv'îles would represent an "urban model of a new and resolutely innovative' sort". Each island, with its biodegradable composites, weighted down by compacted non-recyclable wastes, would be self-sustaining in terms of energy and would bring in a series of green energies: swell machines, water, wind, heat, geothermics, tidal machines... "The Polyv'îles inhabitants would themselves become energy producers themselves via pavement slabs that would mechanically generate electricity" adds Solène BOHIC, a student engineer and team-member. In order to facilitate movements of the islanders, each precinct would have "eco-eggs", a magnetic sustention transport system. The question is: is Polyv'îles a dream or a possible reality? "The students here took 2050 as the reference horizon, just off the European continent, at a latitude that a priori rarely suffers from natural catastrophes and therefore allows you to assemble and position such a floating city like Polyv'îles" answers Nathalie MOLINES, a young research scientist working with the UTC-Avenues-GSU Laboratory. "At this point in time, we are talking about a strictly futuristic vision, but maybe the future will prove the students were right". ■

THE ENVIRONMENT

Multimodoo : multimodal movements

Multimodoo is the name of a search engine that proposes multimodal ecologic, low-cost, journeys.

The French scientific journal Recherches, the national environment agency ADEME and the insurance company Generali organised – for the 8th consecutive time – the yearly competition known as The Sustainable Development Generation Competition, the objective of which is to invite students to "invent tomorrow's world". The competitors have to think about, and make concrete proposals for, those solutions and/or technologies that will help preserve our resources and the environment. Three UTC Compiegne students - David BAUMIER (GSM), Claire BEHAR (GSU) et Guillaume DUFOUR (GI) – competed and obtained the 2nd Senior Award, with its 2 000 € prize money, for their Multimodoo project. Multimodoo is a multimodal trip search engine. The associate site [when launched], will suggest ecologic and economic solutions for travellers who want to optimise their choice of transportation: plane, train, car and/or public transport. Multimodoo will also be a trip booking site, with central services for car-share or taxi-sharing for customers whose routes are similar. "Transport/pollution" is a recurrent theme and very topical today inasmuch as transport alone accounts for 20% of GHG emissions. Yet, even if the French do want to preserve the environment, they can be seen as wanting to optimising their trips only in terms of cost-time parameters. The criterion "pollution", unfortunately, is rarely taking into account or tends to make the trip itself somewhat complex. Thanks to Multimodoo, its authors would like to propose simple optimised cost-time-pollution itineraries for the trips. Naturally, the boom of new technologies, mobile pay systems, Smartphone's®, etc., benefit largely ideas like Multimodoo. The dematerialisation and standardisation, for example, of travel tickets via NFC technologies (near field communications) is one of the main motivations for progressing with the Multimodoo project. Using Multimodoo and a Smartphone®, a customer can buy-and-hold a transport ticket, which will allow him/her to pass the various control stages. The first area of development will consist of offering a multimodal solution to get from anywhere in France to a Paris international/domestic airport. We can bear in mind that some 83.4 M passengers transit through Paris airports every year, so this figure alone represents an attractive target market slot for the Multimodoo designers. ■

INTERNATIONAL AFFAIRS

UTseuS / UTC : a novel and ambitious world-class combination of *training* and *research*

A Chinese delegation representing Shanghai University (SHU) and UTseuS (the Shanghai Sino-European University of Technology)came to Compiegne to sit on the joint steering committee venue.

In less than 7 years since it was inaugurated, UTseuS has today become the first ranked French engineering school in Shanghai with over 1 200 matriculated Chinese students and more than 100 French and other nationals per year "it represents an important partnership in engineering sciences between China and France", remarks prof. Alain STORCK, President and Vice-Chancellor of UTC Compiegne. UTseuS is located in Shanghai, one of the most influential global economic zones, with 400 out of the world's 600 largest companies registered there. UTseuS offers French and Chinese companies high-level graduates, who have benefited form a dual Chinese and French culture. Indeed the companies we are referring to actively seek to recruit more and more graduates with this kind of international profile, in order to develop trade co-operation especially in the face of globalised markets. The 3 French UTs (Universities of technology, viz., UTBM, Belfort Montbeliard, UTC Compiegne and UTT Troyes, who originated the project and UTseuS are now moving in to a second phase of co-operation that aims at bring their training courses and research programmes closer. Pedagogical co-operation, which started in 2005, led of late to a research intensive co-operation programme and to the setting up of a joint laboratory 'Complexcity. "The joint research themes are numerous", explains LUO Hongjie, President of Shanghai University. "Urban systems, smart transportation, sustainable development ... all of which are close in their objectives to the city and urban areas in a larger sense and which will encourage our institutions to collaborate in research". ■

Shanghai University SHU : an excellent partner institutions for the French UTs

Shanghai University (SHU) was created in 1994 from the merger of 4 universities. It has 36 700 matriculate students all told. It is a pluridisciplinary establishment with over 200 faculties and institutes. SHU was selected in yr 2004 by the French UT Network and led - given the geographic location, the proximity with local French and other European industrial plants, and the observable and striking development growth of Shanghai - to the creation of UTseuS.

8 hours of fitness training = 22h operation of a light bulb (75W)

6 hours of fitness training = 220h operation of a laptop computer (143W)

6 hours of fitness training = 500h operation of a LED TV set (62W)

COMPETITION

Sports are good *for the Planet*

In the framework of the international competition," 24h Innovation", a UTC team won the event with its project called "Dev&Co", a fitness room that uses the energy produced by the customers in a vision favouring sustainable development.

The human body creates quite a lot of energy, especially when the person is indulging in a sports activity. The challenge here is to tap this energy and value-add to it? "What we imagined was a totally autonomous fitness room i.e., capable of recuperating and transforming the customers'' energy output into electricity, either to be used directly on the equipment, or stored for later use", explains Élise Gosset, a UTC student who conceived the project initially. So how does it work? A piezo-electric floor, when pressured, generates an electric current by transforming the mechanical stresses created. In like manner, a piezo-platform under the running tracks of the trainer machines changes its stride into an electric current. The runners themselves are wearing nano-electric fibre tee-shirts. The trainer bicycles and the rowing machines are dual purpose. The mechanical power input is transformed into electric power output via alternators that also allow you to sore the energy generated in batteries. Moreover, some of the energy will be used to power a fan to cool the trainee during his exercises. "When you realize that the air-conditioning alone represents 80% of the cost to run a fitness room, the savings you can make here are quite considerable", says Hugo BARTHELEMY, also a UTC student and member of the prize-winning team. Even the heated air of the shower-facilities could be recycled, its heat content recovered and used to heat the shower water. "In a word, concludes Elise GOSSET, "sports activities will be good for the Planet!" ■

The international competition "24 hours of innovation"

This event takes place simultaneously in North and South America, in Europe, Africa and Asia, and during a 24h non-stop period various teams from Universities and engineering schools compete globally, offering solutions to challenges proposed by the business/industrial world, by laboratories and 'creatives'. Indeed the two key words of the competition are innovation and creativity and the competition has become an international 'must' for the worlds of industry and research. This year, the "24hr of innovation" were launched via video-conference from the Ecole de Technologie Superieure (ETS), Montreal, a UTC partner in the framework of UTC's local eco-system for innovation.

http://www.youtube.com/watch?v=Ym1H0Xp5_Is

http://interactions.utc.fr

"PUBLICATION

Internet, a new land to be conquered

The genesis and development of the Internet represent a shared history, part private part public, between laboratories and enterprise, between application designers and net access suppliers, between international infrastructures and national regulations, between social network actors and private individuals. Regulating this new worldwide eco-system at the frontiers of economics, law and social practice, gradually became integrated the connotation given to "governance" (…). The expression "Internet governance" now refers to various meanings, over and above address management and domain naming. Political regulation thanks to the mobilisation factor of twitter or the provocative Wikileaks, can be seen to challenge traditional government; economic regulation of contents where older and more recent forms of production and consumption are in notable conflict, on a national or a local scale, and where the notion of equity has still to be properly defined and implemented; regulation of net behaviour, which stymies attempts made via artefacts; and lastly, the ethical concern we may have to an ever-changing open technology Each of these connotation levels is intertwined with progress in technical possibilities, law, culture and even market trends (…). Whereas the Internet was devised 40 years ago for only a handful of users, today we can identify over 2 billion users. Its "weighting" in the economy and in terms of direct employment and GDP is constantly growing. In strictly political terms, its importance is largely recognised, in traditionally democratic states and also in those who aspire to (more) democracy. The more Internet tools and uses are diversified and circulate everywhere, the more the issue of its control has entered the arena of political debate and legal prescriptions. The current debate, indeed, has moved on from the technical governance aspects to other problems that are a mix of economic and human rights considerations. ■

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In the heart of *entrepreneurial finance*

Shirine MAHER, a graduate from UTC, is what we call a "private banker" with Credit Suisse. This is her portrait. s

Iran, France, Australia... Shirine MAHER's father was a diplomat, Shirine followed her parents through many international postings when she was a young girl, to Tunisia where she successfully passed her Baccalaureate at the Lycée français "At that time, I was very attracted by the prospect of becoming a general engineer", she recalls. "An appointment with an entrepreneur who had previous experience with several UTC graduates was a determining factor. "He strongly recommended that I look at the cursus offered at UT Compiegne, with its already strong links to the outside world and enterprise in particular, plus an envied international vision which was exactly what I was looking for". Shirine therefore succeeded with her application for admission to UTC Compiegne and enjoyed a series of international placement, in the course of her study programme, mainly in R&D. Her last placement (internship) was in the Silicon Valley, California after which Shirine thought seriously about adding a "more financial and accounting" asset to her engineering training. She registered at the University Paris Dauphine, which is an attractive focal point for scientific graduates who wish to acquire entrepreneurial skills, notably in the area of innovating companies (start-ups). At "Dauphine" she followed courses in finance, fiscal regulations, economics, accounting, strategy … "these were in fact complementary to the modules I had already done at UTC in management and finance, and I also wanted to meet, to exchange and interact directly with entrepreneurs, especially in the innovating SMEs and capital risk structures. All of this was now possible in my Dauphine courses", explains Shirine.

Very rapidly, even before her year's courses at Dauphine and the exam period were over, and following suite to a placement, Shirine accepted an employment offer with Merrill Lynch, and America investment bank. "Everything suddenly seems possible, once I joined Merrill Lynch with its strong international vision of finance. The CEO at the time himself had begun his bank career on the rung as a telex operator", recalls Shirine. "Entrepreneurial culture is also everywhere and initiatives are always taken into consideration". The UTC graduate was appointed financial adviser, then private banker, in charge of optimising Middle east clients' portfolios. To be more specific, her clients were entrepreneurs, and they are all highly appreciative of her work. "I admire the entrepreneurs. They have the capacity to take an idea, or a project, on board and then to do everything possible to implement it, however hard the obstacles encountered on the way to launching the company structures."

Each entrepreneur has special needs and Shirine's role is to orchestrate the banks resources to best meet these needs and let the clients succeed in their personal aims. "What we are talking about is sets of entrepreneurs in various stages of maturation of their projects and plans. Some of them have already experienced entrepreneurial adventures and want, for example, to reinvest the fruit of their labour and success stories in new projects. Others, once they have sold their companies, find themselves in a new patrimonial status, and this is not always easy to comprehend. Professionally speaking, these persons cannot envisage their not playing a role in new projects, either in the form of investments in other start-ups or creation of new companies." After a dozen or so years spent with Merrill Lynch, our UTC graduate has now accepted new responsibilities with Credit Suisse . This move implies new challenges. "It's a new adventure in an establishing that is growing rapidly in France and this prospect offers me some fabulous opportunities" says Shirine. "I am delighted to accept the new challenges in a well-tried structure that offers a high level of financial security to its clients in a macro-economic environment today that is largely uncertain". ■

BIO EXPRESS

1975
Born in Tehran (Iran)

1997
Graduated from UTC Compiegne in Mechanical Engineering

1998
Took a Master's degree course in innovation management at the University Paris-Dauphine

Began his career with Merrill Lynch & Co as a product specialist in the team of financial advisers assigned to a Middle East clientele

2000
Became a private banker in charge of optimising portfolios for a clientele of entrepreneurs and with UHNWI in Europe and in the Middle East.

2012
Joined the Crédit Suisse as a private banker - Deputy Director

utc Université de Technologie Compiègne

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