
Vigie STI

la revue de presse

vendredi 5 mai 2006

numéro 225

Sommaire

Le Groupe d'experts canadien en commercialisation présente son rapport final	1
Représentations de la présidente de l'AUCC en préparation du budget fédéral.....	3
85,7 \$ millions pour le financement de 109 chaires de recherche du Canada.....	4
Au sujet de la reconfiguration du conseil consultatif américain "PCAST"	6
De la situation de la compétitivité américaine face aux problèmes budgétaires	8
D'un étude traitant de la valorisation de la recherche universitaire aux É-U.....	11
Du déclin de l'apport de l'industrie américaine à la recherche universitaire.....	12
Les Universités américaines déposent de plus en plus de brevets	13
D'un programme pour soutenir l'entrepreneuriat technologique au Texas.....	17
D'un plan d'action du gouvernement britannique en matière de biomasse.....	19
À propos des stratégies technologiques à moyen terme du Royaume-Uni.....	21
D'une annonce par le président Chirac de mesures pour stimuler la technologie.....	23
De la mise en oeuvre de la loi de programme pour la recherche en France	24
D'une diminution du ratio R-D/PNB norvégien pour 2004.....	25
Du plus récent rapport concernant les indicateurs S-T de la Norvège.....	25
Au sujet des prochaines étapes de la PSTI britannique	27

Le Groupe d'experts canadien en commercialisation présente son rapport final

Fiche numéro 225-01

<http://strategis.ic.gc.ca/epic/internet/inepc-gdc.nsf/fr/tq00068f.html>

Aujourd'hui, Joseph L. Rotman, président du Groupe d'experts en commercialisation, a présenté le rapport final du groupe intitulé Les gens et l'excellence : au cœur du succès de la commercialisation, à l'honorable Maxime Bernier, ministre de l'Industrie.

« Nous vivons dans un monde où la concurrence est planétaire, les changements sont rapides et les connaissances sont une source essentielle d'avantages concurrentiels, a déclaré M. Rotman. Nous avons choisi de nous pencher en

priorité sur les questions où une intervention rapide était possible. Nous avons déterminé que notre tâche consistait à suggérer des moyens d'améliorer, de parfaire et de dynamiser un système de commercialisation qui pourrait fonctionner beaucoup mieux qu'il ne le fait. »

« Je remercie les membres du groupe pour tout leur travail dans l'élaboration de ce rapport, a déclaré le ministre Bernier. Au cours des prochaines semaines et des prochains mois, avec l'aide de mon ministère, j'examinerai attentivement le rapport et ses recommandations. »

Les gens et l'excellence : au cœur du succès de la commercialisation présente un ensemble exhaustif de 11 recommandations, à titre de solide point de départ qui permettrait au Canada de réaliser tout son potentiel. Au cœur de ces recommandations figure la création de l'Office des partenariats pour la commercialisation (OPC), dirigé par des entreprises. L'OPC définira un nouveau rôle pour le secteur privé, en tant que partenaire à part entière pour tracer la voie et élaborer les politiques en matière de commercialisation.

En plus de la création de l'OPC, le groupe recommande l'élaboration d'initiatives en vue :

- d'augmenter la demande de talents de la part des entreprises, grâce à la création d'un nouveau Programme canadien des bourses de recherche sur la commercialisation;
- de stimuler l'embauche dans le secteur privé de travailleurs hautement qualifiés et disposant de talents en matière de commercialisation;
- d'encourager et de mettre en valeur les jeunes Canadiens et Canadiennes qui visent la réussite en sciences, en technologie et en affaires;
- de développer et de conserver les talents nécessaires au succès sur les marchés internationaux;
- de créer un Superfonds pour la commercialisation afin de relever les grands défis de la commercialisation;
- d'élargir les programmes fédéraux qui aident les entreprises en prédémarrage et en démarrage à valider leurs projets commerciaux;
- d'augmenter la participation des PME en matière de commercialisation, grâce à l'Initiative canadienne des partenariats entre PME;
- d'améliorer l'accès des entreprises au financement et aux conseils d'investisseurs providentiels en début de croissance;
- d'examiner le marché canadien du capital de risque au stade de l'expansion des entreprises et de trouver des possibilités d'amélioration;

- d'éliminer les obstacles aux investissements étrangers de capital de risque.

Le Groupe d'experts en commercialisation a été créé le 18 mai 2005. Joseph L. Rotman, Germaine Gibara, Mike Lazaridis, Cindy Lum, John C. Risley et Indira V. Samarasekera ont été nommés au sein de ce groupe en vue de conseiller le gouvernement au moyen d'un plan d'action permettant l'atteinte de ses objectifs de commercialisation. Le groupe proposera également des mesures que le gouvernement, le secteur privé et le milieu universitaire peuvent appliquer afin d'améliorer la commercialisation dans tous les secteurs de l'économie

Représentations de la présidente de l'AUCC en préparation du budget fédéral

Fiche numéro 225-02

http://www.aucc.ca/index_f.html

Monsieur le ministre, je suis heureuse d'être parmi vous aujourd'hui. Je me présente : Claire Morris, présidente-directrice générale de l'Association des universités et collèges du Canada. L'AUCC est le porte-parole des universités et des collèges universitaires du Canada, tant au pays qu'à l'étranger.

Le récent discours du Trône a mis en lumière l'intention du gouvernement de faire, au cours de son mandat, « la promotion d'une économie plus compétitive et plus productive ». Nous saluons cet objectif. Dans un avenir prévisible, le niveau de vie des Canadiens dépendra de notre capacité à livrer une concurrence efficace au sein de l'économie mondiale du savoir. Or, pour parvenir à concurrencer efficacement des économies bien plus importantes, comme celles des États-Unis et de l'Europe, ou celles des puissances émergentes comme la Chine, l'Inde et le Brésil, nous devons absolument accroître notre productivité. La clé pour y parvenir réside dans une hausse des niveaux d'éducation et de compétences afin d'offrir à chaque Canadien la possibilité d'exploiter pleinement ses talents et son sens de l'initiative. Les universités canadiennes ont un rôle essentiel à jouer en ce sens en permettant à un nombre croissant de Canadiens d'acquérir les compétences en matière d'analyse, de résolution des problèmes et de recherche qu'exige le marché du travail, ainsi que des connaissances internationales absolument capitales.

Les Canadiens sont conscients de cette réalité. Ils n'ont jamais été aussi nombreux à réclamer l'accès à l'enseignement supérieur. Les universités comptent aujourd'hui 800 000 étudiants à temps plein, soit 150 000 de plus qu'il y a quatre ans.

Les étudiants évoluent dans un milieu axé sur la recherche et les compétences analytiques. Certes, la recherche universitaire génère de nouvelles idées d'importance vitale et contribue à la valorisation du savoir, mais sa principale contribution réside dans les diplômés issus d'un environnement axé sur la recherche.

Au cours de la dernière campagne électorale, le Parti conservateur indiquait dans sa plateforme combien il est inacceptable que les dépenses globales du Canada au titre de la recherche-développement soient inférieures non seulement à celles de la plupart des pays du G-8, mais aussi à celles de la moyenne des pays de l'OCDE, qui se situe à 2,3 pour cent. Nous en convenons, mais tenons à souligner que la recherche universitaire se porte plutôt bien; elle constitue une force à exploiter, qui reflète la structure de l'économie canadienne.

On estime la valeur de la recherche publique et privée menée par les universités en 2005 à 9,8 milliards de dollars, soit 37,5 pour cent de la totalité des activités de recherche au Canada. Le milieu universitaire est le seul à mener de la recherche au nom de l'ensemble des autres secteurs. Les universités canadiennes forment le personnel de recherche hautement qualifié qu'exige le marché du travail, et aident notre pays à attirer et à retenir les chercheurs de premier ordre. Cependant, si elles y parviennent, c'est d'abord et avant tout grâce aux investissements fédéraux.

Notre pays n'est pas le seul à investir fortement dans la recherche universitaire. Compte tenu de la férocité de la course mondiale aux talents qui bat son plein, il est essentiel que le gouvernement affirme la détermination du Canada à se hisser au sommet de la concurrence. Pour cela, il est impératif que le gouvernement fédéral subventionne les frais indirects de la recherche à hauteur de 40 pour cent et qu'il consente, par l'entremise des trois organismes subventionnaires fédéraux, des investissements concurrentiels à l'échelle internationale au titre des frais directs de la recherche. Il est tout aussi indispensable qu'il investisse, par l'entremise de la Fondation canadienne pour l'innovation, dans une infrastructure de recherche de pointe ainsi que dans le soutien des étudiants aux cycles supérieurs et dans les chaires de recherche.

85,7 \$ millions pour le financement de 109 chaires de recherche du Canada

Fiche numéro 225-03

http://www.chairs.gc.ca/web/media/releases/2006_april_f.asp

L'honorable Maxime Bernier, ministre de l'Industrie et ministre responsable du Programme des chaires de recherche du Canada, a annoncé aujourd'hui un investissement de 85,7 millions de dollars pour le financement de 109 chaires de recherche du Canada.

« Le paysage de la recherche universitaire au Canada a grandement évolué depuis quelques années. Les titulaires de chaires de recherche du Canada, qui y ont fortement contribué, constituent une force intellectuelle inestimable pour notre économie, notre environnement et la qualité de vie de nos citoyens, a remarqué le ministre Bernier. L'expertise de ces chercheurs de renom représente une précieuse ressource nationale et un avantage concurrentiel international. »

« Mon gouvernement continuera d'investir dans la recherche et le développement. Il fera aussi la promotion de la recherche fondamentale et appliquée, en particulier

en sciences et en technologie, car elle est essentielle au bien-être économique futur du Canada. »

L'annonce tenue à l'Université Laval a particulièrement souligné les réalisations de Sophie LaRoche, professeure au Département de génie électrique et de génie informatique. L'une des plus grandes spécialistes au Canada dans le domaine de la photonique, cette chercheuse entame son deuxième mandat de cinq ans en tant que titulaire de la Chaire de recherche du Canada en communications et composants à fibre optique.

Ses travaux sur les fibres optiques continueront d'améliorer la capacité des réseaux de communication à recevoir de plus en plus de données et faciliteront, pour les Canadiens, l'utilisation toujours plus importante du courrier électronique, de l'Internet ainsi que des services de transactions bancaires et d'achats en ligne.

« Non seulement la fibre optique transmet des données par la lumière, mais elle permet aussi de mettre au point des dispositifs qui amplifient et filtrent cette lumière, a expliqué Mme LaRoche. Durant mon premier mandat en tant que titulaire de chaire, mon équipe de recherche a découvert une manière de corriger et d'ajuster les distorsions des signaux par fibre optique de manière à améliorer la qualité des transmissions. Nous travaillons maintenant avec un partenaire industriel canadien afin d'exploiter le plus rapidement possible les avantages de cette nouvelle technologie. »

Le financement annoncé aujourd'hui permettra de subventionner 109 chaires de recherche du Canada, dont 28 renouvellements – comme dans le cas de Mme LaRoche – et 81 nouvelles chaires. Les travaux de ces chercheurs visent à enrichir les connaissances et à améliorer la qualité de vie, au Canada et dans le reste du monde.

Judy Wong, titulaire de la Chaire de recherche du Canada sur les mécanismes de maintien du génome à l'University of British Columbia, étudie la télomérase, une enzyme impliquée dans le vieillissement cellulaire et dans la cancérisation des cellules. L'étude de ses mécanismes sous-jacents est cruciale car l'inhibition des activités de la télomérase aurait non seulement le pouvoir de stopper les cancers mais peut-être même aussi celui de prolonger la longévité de la population en général.

Yonggan Zhao, titulaire de la Chaire de recherche du Canada en gestion des risques à la Dalhousie University, mettra au point de nouveaux modèles pour diminuer les risques liés aux placements financiers personnels dans le but d'aider des millions de Canadiens à mieux se préparer pour leur retraite et le financement de l'éducation de leurs enfants.

Rosemary Tannock, occupera la nouvelle Chaire de recherche du Canada en éducation spécialisée et en techniques d'adaptation à l'University of Toronto. En développant des techniques d'enseignement adaptées à leurs besoins, elle aidera

des enfants atteints de troubles de comportement et de santé mentale à réussir en classe.

L'investissement que nous annonçons aujourd'hui comprend une subvention de 11,4 millions de dollars attribuée par la Fondation canadienne pour l'innovation (FCI) pour financer une infrastructure de recherche essentielle à la réussite de 71 projets de grande envergure. Parmi ces projets, on peut mentionner le développement de polymères fonctionnels et intelligents, la recherche de pointe sur le diabète et la conception d'un nouveau milieu d'apprentissage pour l'alphabétisation.

« Le partenariat entre la FCI et le Programme des chaires de recherche du Canada a aider à faire du Canada une destination recherchée par les meilleurs chercheurs au monde », a déclaré le Dr Eliot Phillipson, président-directeur général de la FCI. « Les investissements annoncés aujourd'hui ne bénéficieront pas seulement aux universités et aux chercheurs du Canada, mais à l'ensemble de la population canadienne, qui profitera des avancées scientifiques et technologiques qui en découleront. »

Au sujet de la reconfiguration du conseil consultatif américain "PCAST"

Fiche numéro 225-04

<http://www.fcw.com/article92454-02-28-06-Web>

Heavy hitters from the information technology arena will soon join the President's Council of Advisors on Science and Technology (PCAST), marking the latest reverse in the administration's prioritization of IT research and development.

The 14 new appointees announced yesterday are:

- * F. Duane Ackerman, chairman, president and chief executive officer of BellSouth.
- * Paul Anderson, chairman and CEO of Duke Energy.
- * Robert Brown, president of Boston University.
- * Nance Dicciani, president and CEO of Honeywell Specialty Materials.
- * Richard Herman, chancellor of the University of Illinois at Urbana-Champaign.
- * Martin Jischke, president of Purdue University.
- * Fred Kavli, founder and chairman of the Kavli Foundation.
- * Daniel Reed, director of the Renaissance Computing Institute.

- * Hector de Jesus Ruiz, chairman, president and CEO of Advanced Micro Devices.
- * Stratton Sclavos, chairman and CEO of VeriSign.
- * John Brooks Slaughter, president and CEO of The National Action Council for Minorities in Engineering.
- * Joseph Tucci, president and CEO of EMC.
- * Robert Witt, president of the University of Alabama.
- * Tadataka Yamada, chairman of research and development for GlaxoSmithKline.

The selections come nearly nine months after President Bush disbanded the President's Information Technology Advisory Committee (PITAC), which advised him on IT R&D. Bush later folded PITAC's functions into PCAST. PCAST advises the president on technology, scientific research priorities and math and science education.

The reconfigured PCAST met for the first time last month, but the previous PITAC board had not been reinstated, and Bush had not tapped additional IT advisers to fill the empty seats on PCAST.

The delay in choosing new members raised some concern among researchers who warned that federal spending trends indicate the administration's declining interest in IT research. Industry and academia have long worried that U.S. jobs and national competitiveness will suffer if the federal government fails to support IT research that does not directly relate to national defense or homeland security.

Those concerns have abated somewhat since Bush's last State of the Union address. In the speech, he announced an initiative to stimulate R&D in major scientific areas, including nanotechnology, supercomputing and alternative energy sources. The three-part program, called the American Competitiveness Initiative, focuses on R&D, education, and workforce and immigration policies.

Now, 14 new science and technology experts will join the sitting PCAST, which currently has 24 members. Some of the holdovers carry extensive IT credentials, including Dell founder Michael Dell, Intel co-founder Gordon Moore and Microsoft Executive Vice President Robert Herbold.

New PCAST member Dan Reed, who is also vice chancellor of IT and chief information officer at the University of North Carolina at Chapel Hill, was a member of the last PITAC. He currently serves as chairman of the board of directors for the Computing Research Association.

Today, PCAST and former PITAC members are more confident that the reconstituted advisory group will emphasize IT. Floyd Kvamme, PCAST's co-

chairman and a partner at the venture capital firm of Kleiner Perkins Caufield and Byers, has said that he intends to complete a careful review of the federal IT R&D program by the end of the year. The expanded PCAST will hold its next meeting March 28.

Ed Lazowska, PITAC co-chairman from 2003 until the committee's end in June 2005, said today, "It's a new day since the president's State of the Union message. The American Competitiveness Initiative gives reason for hope that research and advanced education will receive appropriate prioritization. That creates an opportunity for PCAST to be effective."

De la situation de la compétitivité américaine face aux problèmes budgétaires

Fiche numéro 225-05

<http://www.aaas.org/news/releases/2006/0421budget.shtml>

Edward W. Lempinen

A panel of influential budget experts on a AAAS panel Thursday warned of dire federal budget problems in the months and years ahead, and said that soaring mandatory expenses and looming deficits pose a risk to U.S. funding for research and development.

Appearing at the 31st annual AAAS Forum on Science and Technology Policy in Washington, the experts predicted that a deeply divided Congress would have trouble agreeing on a 2007 budget before congressional elections in November. That would mean the 2006 budget would prevail into the 2007 budget year—but it contains billions less than proposed by President George W. Bush or the U.S. Senate, and that could directly affect R&D spending anticipated in Bush's budget plan.

John H. Marburger III, director of the White House Office of Science and Technology Policy, acknowledged the climate of fiscal constraint during the opening keynote speech. But he predicted that the president's proposed American Competitiveness Initiative, if approved, would "assure the future economic competitiveness of our nation."

Experts on a later panel, however, were less sanguine. Unless escalating long-term costs for Social Security, Medicaid and Medicare, interest on U.S. debt and other mandatory expenses are offset by dramatically increased revenues, the U.S. faces a major debt build-up or deep budget cuts. But the tax increases needed to close the gap could be so substantial that they would undermine economic growth.

"It's bigger than a budget problem," said Douglas Holtz-Eakin, the former director of the Congressional Budget Office who now serves as director of the Maurice R. Greenberg Center for Geoeconomic Studies at the Council on Foreign Relations. "I promise you that if these trends are all to continue, it will attack the core of American competitiveness."

U.S. competitiveness and innovation have emerged as a crucial theme in recent months, and the issue could be prominent in the coming congressional election campaign.

Reports by scientific, education and industry groups have warned that, with increasing global competition, the United States must take ambitious steps to preserve its status as the world leader in innovation. President Bush has offered the American Competitiveness Initiative and others bills pending in Congress are intended to encourage innovation. AAAS Forum on Science and Technology Policy

Those themes also were prevalent during the first day of the AAAS Forum on Science and Technology Policy, which annually brings together top science policy experts and government officials to explore some of the most challenging issues facing scientists and society. More than 400 scientists, policymakers, educators, students and others enrolled to hear this year's speeches and panel discussions.

The Forum was opened Thursday by AAAS Board Chairman Gilbert S. Omenn, professor of internal medicine, human genetics and public health at the University of Michigan in Ann Arbor. He reminded the audience of the state of the U.S. economy in 2001—the National Institutes of Health budget was being doubled, and even then there was a \$550 billion federal budget surplus. It was, Omenn said, a time of bipartisan celebration and an opportunity for visionary planning.

But the 9/11 terror attacks, the related military actions in Afghanistan and Iraq and deep tax cuts have had a profound impact on the budget. Omenn noted that a government report quietly circulated late last year had pegged the official deficit at \$319 billion; measured by accrual accounting, which includes future obligations included in the budget, the deficit is \$760 billion, the report found. One analyst cited by Omenn has pegged per capita debt at \$156,000, or the equivalent of a \$750 monthly mortgage for each person in America—without the benefit of a house.

Marburger followed that introduction with a summary of how the process and temper of federal R&D budgeting has changed in the past two decades. Today, he said, the process is shaped by a new emphasis on funding areas that contribute to economic competitiveness. In Bush's first term, he said, overall federal R&D spending rose by 45 percent, the highest rate of growth since the Apollo space program in the 1960s and early 1970s.

"The administration is not given enough credit for the impact of this increase," he said.

The 2007 cost of the administration's American Competitiveness Initiative—roughly \$6 billion—is "dwarfed" by earmarks in the current budget, Marburger complained. Earmarking goes beyond the president's budget to make narrowly focused appropriations for research or other projects in a particular congressional district. When an agency's budget is laced with earmarks, he said, there's a "gross exaggeration" of how much money the agency actually has to fulfill its plans.

Other speakers focused on different problems, especially the constraints resulting from chronic deficit spending.

Kei Koizumi, director of the AAAS R&D budget program, detailed both the upside and the downside of the administration's 2007 budget proposal. While the National Science Foundation, the Department of Energy's Office of Science and the National Institute of Standards and Technology stand to gain from the White House competitiveness initiative, Koizumi said that spending at most other R&D agencies would fall.

"In this very tight budget, for every increase there would be steep cuts elsewhere," he said. That trend would continue for several years, he said, with some agencies facing real cuts of 10 to 30 percent.

Koizumi predicted there could be "fierce competition" for scarce 2007 budget funds in the months ahead. The many innovation initiatives now pending in Congress are not likely to advance, added, unless new money is found to pay for them.

G. William Hoagland, director of budget and appropriations for Senate Majority Leader Bill Frist (R-Tenn.), agreed that the budget process in the next few months could be unusually difficult.

Hoagland, who described himself as a "deficit hawk," said that when Congress returns to work on Monday (24 April), the schedule for passing a 2007 spending plan will be extremely tight—85 days before the pre-election break in October, or, more realistically, 57 days if Mondays and Fridays are excluded.

Meanwhile, Congress still has to deal with two remaining 2006 budget matters—a \$92 billion appropriation for hurricane relief and the Iraq war, and a \$70 billion tax-reduction measure. The 2006 budget may, in the end, have a deficit approaching \$400 billion, he said, compared to \$319 billion in 2005. And a considerable bloc of Republicans will be pressing for substantial budget cuts in advance of the election—cuts that might come out of research and development investment.

"Let me state the obvious," Hoagland said. "This is an extremely difficult political year. The president's job approval ratings remain near the lowest of his presidency. Congress's approval ratings aren't much better." That's compounded, he said, because the top two officials at the Office of Management and Budget have taken new jobs in the administration, and new leaders will take office under difficult conditions. Republicans are divided and Democrats, sensing possible victories in November, aren't in a mood to compromise with them.

According to Hoagland and Holtz-Eakin, that dynamic may grow more pronounced as the cost of non-discretionary programs rises in the years ahead.

Holtz-Eakin listed Social Security, Medicare, Medicaid as the three programs that will consume an ever-greater proportion of the federal budget as the population ages and medical costs continue to soar. Hoagland added defense spending and interest on the federal debt to that list, and noted that those five are already crowding out other needs.

“You basically can do away with the rest of the government and you might be able to balance the [2007] budget,” he said. If current trends hold, Hoagland said, by 2035 the federal government will be able to pay for Social Security, Medicare, Medicaid and a small portion of interest on the federal debt—and nothing else.

Clearly, he noted, R&D would suffer in that scenario.

Given their pessimistic prognoses, the budget experts expressed surprising optimism that the United States can resolve its budget dysfunction—if voters and political leaders summon the political will to make difficult decisions. The U.S. economy is resilient, Hoagland said, and the world economic system has allowed foreign interests to invest in the U.S. and underwrite its debt.

But “that may not always be the case,” he cautioned. “And for some reason, it just doesn’t seem right to this farm boy from Indiana that the richest country in the world today actually imports capital from all other regions of the world—particularly oil-producing countries. It’s not a secure feeling about controlling our future destiny.”

D'un étude traitant de la valorisation de la recherche universitaire aux É-U

Fiche numéro 225-06

<http://www.kauffman.org/research.cfm?itemID=692>

Executive Summary

This study examines the prevalence and determinants of the commercialization of research by the top twenty percent of university scientists funded by grants from the National Cancer Institute (NCI). Because the two publicly available modes of scientist commercialization – patents and Small Business Innovation Research (SBIR) grants – do not cover the full spectrum of commercializing activities undertaken by university scientists, the study also includes two additional measures obtained from detailed scientist interviews: licensing of intellectual property and starting a new firm. These measures are used to assess both the prevalence and determinants of scientist commercialization of research. In particular, two distinct routes for commercializing scientist research are identified, the Technology Transfer Office (TTO) route and the entrepreneurial route, which does not involve assigning a patent to the university. This study in no way provides an assessment or judgment about the efficacy of the TTO. Rather, this study highlights the extent to which additional commercialization of research takes place, suggesting that the contribution of universities to U.S. innovation and

ultimately economic growth may be greater than had previously been believed. Specific empirical findings suggest that:

- Scientists receiving funding from the National Cancer Institute exhibit a robust propensity to commercialize their research. However, the prevalence of commercialization depends highly upon the actual mode of commercialization. Some modes of commercialization, such as patents, are more prevalent, while other modes, such as funding by the SBIR program are rarely used.
- Scientist entrepreneurship is the sleeping giant of commercializing university research. More than one in four patenting NCI scientists have started a new firm.
- Two paths for commercialization of scientist research are identified - the TTO route and the entrepreneurial route. Scientists who select the TTO route by commercializing their research through assigning all patents to their university TTO account for 70 percent of NCI patenting scientists. Scientists who choose the entrepreneurial route to commercialize their research, in that they do not assign patents to their university TTO, comprise 30 percent of patenting NCI scientists.
- Social capital enhances the propensity for scientists to commercialize their research. The impact of social capital is particularly high for the commercialization mode of scientist entrepreneurship.
- For scientists who perceive that they are helped by their Technology Transfer Office, licensing is the most prevalent mode of commercialization. For scientists who perceive that they are not helped by their Technology Transfer Office, entrepreneurship emerges as a much more important mode of commercialization.
- Scientists choosing the entrepreneurial route to commercialize their research, by not assigning patents to their university to commercialize research, tend to rely on the commercialization mode of entrepreneurship. By contrast, scientists who select the TTO route by assigning their patents to the university tend to rely on the commercialization mode of licensing.

* Le document peut être consulté dans son entier à l'adresse URL ci-haut.

Du déclin de l'apport de l'industrie américaine à la recherche universitaire

Fiche numéro 225-07

<http://www.bulletins-electroniques.com/actualites/33401.htm>

Selon une récente étude de la NSF, l'industrie américaine a encore diminué en 2004 son investissement de R&D dans les centres universitaires, pour la troisième année consécutive. La baisse a été de -2,4%, contre -1,1% en 2003 et -1,5% en 2002. L'apport du privé à la R&D dans les universités s'établit maintenant à 2,1 milliards de dollars, soit 4,9% de l'ensemble des dépenses de R&D en science et en ingénierie

dans ces universités (42,945 milliards), budget lui-même en forte croissance (+7,2% en 2004, après +10,2% en 2003 et +10,9% en 2002).

Cette croissance des dépenses de R&D des universités est directement liée à la croissance des dépenses fédérales de R&D, lesquelles représentent maintenant 64% du budget R&D des universités.

La contribution des états et collectivités locales a suivi, avec une croissance de 7,4% en 2004, pour représenter 6,5% du budget R&D des universités (non compris la part de subvention à l'enseignement qui contribue à l'effort de R&D).

Par domaine les sciences de la vie viennent en tête avec 25,65 milliards, suivies par l'ingénierie (6,312 milliards), les sciences physiques (3,545 milliards) puis les sciences sociales (1,67 milliards) et l'informatique (1,405 milliards). De fait, au sein des sciences de la vie les sciences médicales (14,041 milliards) et la biologie (7,84 milliards) sont déjà nettement plus importantes que les autres domaines.

Cela conduit le ministère de la santé (Department of Health and Human Services) à être le premier contributeur, suivi par la National Science Foundation.

[Voir le tableau correspondant.](#)

Parmi les universités John Hopkins est toujours en tête en matière de dépenses de R&D (1,375 milliards, en hausse) suivie, à distance, par UCLA (773 millions), Michigan State University (769 millions) et University of Wisconsin at Madison (764 millions) toutes en baisse. Stanford pointe en 8e position (671 millions), U.Penn en 10e, Cornell 11e, le MIT 12e et Berkeley en 13e, Duke étant 14e. Les 100 universités (sur 612 enquêtées, qui ont dépensé au moins 150 000 dollars en R&D) qui dépensent le plus en R&D représentent 80% des dépenses.

Les Universités américaines déposent de plus en plus de brevets

Fiche numéro 225-08

<http://www.eetimes.com/showArticle.jhtml?articleID=186500766>

Rick Merritt

Universities are becoming increasingly aggressive in the patent game, causing friction at times with companies that sponsor academic research and creating controversy over a perceived focus on short-term research and its financial rewards.

As academia's patent pot races well past a billion dollars annually, the players are multiplying, with smaller colleges finding innovative ways to assert their intellectual property and international universities portraying themselves as friendlier to corporate partners than their U.S. counterparts.

The rise in academia's patent activity is well-documented. U.S. universities, which filed just 1,584 patent applications in 1991, asked for 10,517 in 2004, three times as many as IBM, the corporate leader in worldwide patent filings.

By any measure, patents have become big money on campus. University revenue from patent licenses jumped by one count from just over \$200 million in 1991 to more than \$1.3 billion in 2004. Consider:

- A startup bought about 500 patents from as many as 60 U.S. colleges.
- ARM Ltd., in a deal with a top-tier university, has agreed to pay the salaries of the school's research assistants and, in turn, take co-ownership of any patents they file.
- A high-level committee is scheduled to lay out guidelines this week for handling intellectual property deals between academia and industry.

While most university patent revenue comes from royalty agreements, part comes from equity in startups spun out of university research in deals brokered by college tech-transfer offices. Universities spun out 462 startups in 2004 and took equity in 240 of them, according to a report by the Association of University Technology Managers (AUTM).

In the last decade the number of people employed in university tech-transfer offices quadrupled, going from 413 in 1992 to 1,649 in 2004, said a report by AUTM. A National Research Council report noted that in 1980 only 24 universities had a tech-transfer office. Now, nearly all do.

The growth in patent activity these days is with second-tier colleges, said Don Merino, general manager for acquisitions at startup Intellectual Ventures LLC (Bellevue, Wash.). The hope is to create multiple patent portfolios they can spin out as separate companies. Intellectual Ventures has already cut deals with as many as 60 mainly smaller colleges including the University of California at San Diego (UCSD), New Jersey Institute of Technology and Stevens College to buy as many as 500 patents it will organize into focused portfolios for licensing. Some colleges are already getting IV's royalty checks.

"I like to think of myself as a market maker, providing a lubricant to make things happen," said Merino, a former head of licensing for Intel Corp. and General Instrument Corp. "We act as an aggregator. I think that's very valuable."

So does Alan Paau. An assistant vice chancellor at UCSD who runs the tech-transfer office, Paau said, "Some people fear [Intellectual Ventures] will do assertion licensing and force people to pay royalties, but the positive side is they put a lot of effort into assembling good portfolios."

UCSD transferred several patents to Intellectual Ventures, including one on videoconferencing that started earning royalties in March. "Sometimes, we don't

have the time, money or expertise to pull a whole patent portfolio together," Paau said, explaining the deal.

The university files about 100 patent applications a year and usually sees about half of them approved. It made \$21 million last year on patent royalties, slightly less than half of what tech-transfer offices at Stanford or MIT rake in each year.

Others see similar opportunities. The Larta Institute (Los Angeles), a nonprofit that tries to link academia and the private sector, is partnering with the Kauffman Foundation (Kansas City) to develop new ways universities can pool their intellectual property. "Within the next year we hope to have a template for an interuniversity IP-sharing agreement," said Victor Hwang, president of Larta.

Second-tier opportunities

"There's a huge [patent] opportunity outside the Stanfords and MITs. That's where the hunger is," he said. "The top universities are satisfied with where they are."

Plenty of innovative programs are already being implemented. ARM now sponsors 10 research assistants at an annual salary of \$65,000 each at the University of Michigan. In exchange, ARM is listed as co-owner on the two or three annual patents each researcher files.

"I have gone from filing about one or two patents in 20 years to filing 12 patents in 12 months," said Trevor Mudge, a professor of electrical engineering who got the program going. Mudge helped develop ARM's Jazelle Java processor on a sabbatical six years ago and later had a student who became a research manager at ARM. Both formed ties that led to the current deal.

"This works for companies like ARM because they are fairly small and don't have a big research staff. We become an inexpensive way they can do innovative research," and it helps students with the rising costs of graduate school, said Mudge.

Every other month, UCSD professors present their research to a group of venture capitalists and electronics executives who provide feedback at a so-called Innovators Roundtable. A regular breakfast series has a similar format, and every year or so the university sponsors a startup boot camp where entrepreneurs share their experiences.

"It's very good to interact with industry," said UCSD's Paau. "We are not a Stanford so we have to stir the pot."

In addition, UCSD's Global Connect program has worked with corporations like Samsung and Sony to forge links in R&D. "We are trying to create interfaces that accelerate the movement of technology from universities to industry," said Greg Horowitz, who directs the program.

The programs are needed to maintain the flow of funds universities have come to expect from patents.

"It's become harder in the last six or seven years to get seed funding [for university spinouts]," said Jack Turner, associate director of licensing at MIT, which makes about \$45 million from its intellectual property and takes equity in about a dozen startups a year.

"VC firms need to place so much money, they won't pay attention to small investments. They are becoming less and less likely to invest in small university startups," Turner added.

So a handful of colleges, the University of Illinois among them, have started their own venture seed funds. Others, like the University of Nevada, are building incubator centers to nurture startups.

"There are problems all up and down the chain of the [patent] system," said Michigan's Mudge. On one hand, many universities feel they don't have the big bucks to pursue an IP business. On the other hand, the larger industry is "getting into an IP bubble much like the dot-com bubble of a few years ago," he said.

Rubbed the wrong way

Sometimes all the heated patent activity creates friction between universities and potential corporate sponsors. Hewlett-Packard Co. spent two years trying to wrap up a deal for a nanotechnology center at UCLA and finally had to involve the head of the University of California system to break a logjam around intellectual property.

"The whole situation on patents and licensing has been very difficult for the last five or six years, and we are still not where we need to be," said Wayne C. Johnson, vice president of worldwide university relations for HP. "This is the single most complicated subject I have ever tackled professionally."

Johnson has worked with the Government-University-Industry Research Roundtable, a group created in 1984 by the National Academies, to develop guidelines for handling university patent deals. That work will be presented at a seminal roundtable in Washington, D.C., this week. Johnson said he will work to get universities to adopt the new guidelines.

The guidelines basically say collaborations should support the missions of both parties, focusing on long-term partnerships and streamlining negotiations to maximize benefits for all. That said, few think a template has any role in patent negotiations, since each deal is unique.

"When you get into the role of making money you create friction with your constituent groups," said Belle Wei, dean of engineering at San Jose State

University. "We are not here to make money. We are here to develop knowledge capital for the community. That's our role," she said.

Wei said many smaller universities waste time and money trying to get patents they cannot afford to enforce, spinning out startups that compete with corporate research sponsors and negotiating tough patent deals that only delay new projects.

Anywhere from 30 to 70 percent of all institutions had positive net income from 1992 to 2002, depending on how you define the term, according to a study presented by Boston University last year. Older, larger universities are getting most of the money, which only works out to a mean of about \$5 million/year.

University revenues for patent licenses went from \$218 million in 1991 to \$1.385 billion in 2004, according to the most recent AUTM report. All told, the patent office has issued 34,542 patents to universities since 1993.

Hello, China

"Even when we are essentially footing the whole bill on research, universities still want us to take a license," said Johnson of HP.

On the flip side, companies often expect rights to all university research even if they are only sponsoring a very narrowly focused lab, others noted. "The situation only creates friction for people who want a free ride," said Merino of Intellectual Ventures. "Just because I loan you some money for a car doesn't mean I can take your house."

When the friction gets too intense, U.S. corporations find they have a nice escape hatch. "The wild card is whether we go to [universities in] China, India or Russia for R&D instead of the U.S.," said Johnson. Indeed, about half of the \$15 million to \$20 million HP spends in academic research each year goes to universities abroad. Brazil and Singapore, he said, have particularly attractive tax breaks and matching funds to attract academic R&D investments.

Larta's Hwang characterized the situation as "an arms race in innovation."

"We will lose the luxury to pursue long-term research if we can't attract industry funding," he warned.

[Voir tableau correspondant](#)

D'un programme pour soutenir l'entrepreneurship technologique au Texas

Fiche numéro 225-09

<http://www.ssti.org>

The metaphor of a pipeline is often used for describing the innovation process and, specifically, the health of a regional innovation system. Sustaining knowledge-

based growth requires a steady flow of ideas, people and capital. Often, the flow can be weak in one of these areas -- or clogged by other factors such as lack of key resources or programs.

A new program by the Kansas Technology Enterprise Corporation (KTEC) moves the pipeline metaphor toward a more tangible reality to help nurture the entrepreneurship climate in the state. The new program, KTEC Pipeline, will "identify talented and entrepreneurial Kansans, match them with best-in-class training, resources and mentors and encourage them to pursue a career as a technology entrepreneur in Kansas," KTEC President and CEO Tracy Taylor said.

There is some disagreement in those circles that discuss entrepreneurship and innovation on the academic or theoretical levels as to whether or not entrepreneurs can be nurtured through training and advice or if entrepreneurship requires some sort of innate natural ability. The latter position suggests the entrepreneurship assistance efforts of many states and organizations are for naught. KTEC Pipeline presents a model combining elements of both camps to ensure its class of eight competitively selected "Innovators" will be in the best position possible to succeed by connecting them with the training, mentoring and financial resources required for their success.

The application process begins next week for what KTEC anticipates will be a highly competitive and highly selective effort. The expected qualifications for the first class of eight Innovators reads much like a job description:

Graduate degree or commensurate experience in science or business;

Technology-based education, professional experience or demonstrated proclivity;

At least three years of business or scientific management experience;

Demonstrated leadership skills and experience;

Strong analytical skills and the ability to conceptualize problems through analogies;

Abilities to manage uncertainty and ambiguity and to take measured risks; and,

Strong interpersonal and business communication skills.

Inductees receive one-year assistance and a \$36,000 stipend. In addition to being matched one-to-one with an experienced and successful tech entrepreneur, Innovators will receive best-in-class training in the fundamentals of technology entrepreneurship and three-day formal learning sessions each quarter focusing on education, skill-building and networking. Pipeline mentors will be tech-oriented, proven leaders in their field or industry. Participants also will have access to other business experts, technologists and venture capitalists with the capabilities of financing early stage technology companies.

Nurturing entrepreneurial people to be successful locally is the goal of the program, one spinoff result anticipated is for these same people to provide inspiration and examples to encourage others to become entrepreneurs as well.

D'un plan d'action du gouvernement britannique en matière de biomasse

Fiche numéro 225-10

<http://www.wired->

[gov.net/EDP8203R7W/WGArticle.aspx?WCI=htmArticleView&WCU=ARTCL_PKEY%3d38750%2cALERT_TYPE%3d17](http://www.wired-gov.net/EDP8203R7W/WGArticle.aspx?WCI=htmArticleView&WCU=ARTCL_PKEY%3d38750%2cALERT_TYPE%3d17)

An action plan to unlock the potential for renewable energy in biomass is published by the Government today.

The plan accepts that energy from crops, trees and waste can make a strong contribution to reducing greenhouse gas emissions and sets out 12 key ways to make this happen.

Measures include a capital grant scheme for biomass boilers; the establishment of a new Biomass Energy Centre to provide expert information and advice, along with further grant support for biomass supply chains and a commitment to consider using biomass heating in Government buildings.

The report, launched by Ministers from Defra and the DTI, forms the Government's response to the Biomass Task Force, which made a package of recommendations in October.

Its main argument - that biomass is particularly suited for generating heat is accepted by the Government, though the action plan makes clear that electricity generated from biomass and combined heat and power (CHP) are also an important part of its future.

Lord Bach, Defra's Minister for Sustainable Farming and Food, said: "There is enormous potential in biomass, to generate renewable energy, to help the environment and to provide another possible market for our farmers.

"We know that biomass is not the answer to every issue facing us but we should be getting much more from this valuable resource.

"This action plan provides us with a clear path forwards. It has been drawn up by a cross-Government team, building on the excellent work done by the Biomass Task Force."

Minister for Energy, Malcolm Wicks, added: "The plans we are announcing and the Biomass strategy that is being developed will supplement initiatives such as the DTI's Low Carbon Building programme and the bioenergy capital grants scheme to further increase the use of biomass technology.

"We are aiming for 10% of our electricity to come from renewable sources by 2010 and double that by 2020 so biomass will have an increasingly important role to play in the UK's future energy mix."

The Biomass Task Force made 42 recommendations to Government. The Government's Response accepts most of these, setting out plans for implementing them. A number of initiatives have already begun.

The Task Force's recommendation that the Government should not pursue a renewable heat obligation will be considered further and the evidence reviewed.

The action plan is primarily for England. However the Devolved Administrations of Northern Ireland, Scotland and Wales have helped in its development and it will also contribute to a UK biomass strategy, which will be published in the next year.

The full report is available online at

http://www.dti.gov.uk/renewables/renew_1.4.htm or by linking from Defra's biomass page at

<http://www.defra.gov.uk/farm/acu/energy/biomass-taskforce>

Notes to Editors

1. The Government's Response to the Biomass Task Force Report has been produced by a cross-Government working group, led by Defra and the DTI.

2. Key points are:

* A new 5 year capital grant scheme for biomass boilers, with funding of £10 - £15 million over the first two years and a second round of the Bio-energy Infrastructure Scheme, with funding at, or close to the level, proposed by the Task Force (announced in the Climate Change Programme Review);

* Agreement in principle to support for energy crops under the new Rural Development Programme for England to be introduced in 2007, closely integrated with bioenergy market development;

* Announcement of the Forestry Commission's new Biomass Energy Centre as a major new hub for bioenergy advice and best practice for industry and the public;

* Further measures to integrate environmental assessment in the planning of energy crop development;

* Government leadership through public procurement, including the commitment to map the potential use of biomass across the main procuring departments of the Government estate;

* Working with Regional Development Agencies and other organisations to ensure effective, coordinated mechanisms for delivery of policy and advice;

* Action already taken, since publication of the Task Force report, to improve the Renewables Obligation and implementation of the associated procedures;

* Use of the planning system to stimulate renewables development, including our support for planning authorities applying a minimum percentage of renewable energy in new developments;

* Action to address regulatory barriers identified by the Task Force and to develop standards to improve efficacy and confidence in biomass;

* Our thinking on the use of energy from waste, which is subject to conclusions from the current review of Waste Strategy and the Energy Review; and

* Support for the EU Biomass Action Plan and agreement on UK membership of the Global Bioenergy Partnership from its launch in May 2006.

* The introduction of new Building Regulations, from April 2006, with new procedures and tougher standards which will encourage the use of Low or Zero Carbon (LZC) systems, such as biomass.

3. The Biomass Task Force, chaired by Sir Ben Gill, reported to Government in October 2005. Full report is available here: <http://www.defra.gov.uk/farm/acu/energy/biomass-taskforce/btf-finalreport.pdf>

4. Biomass currently accounts for 84 per cent of Britain's renewable energy generation and 1.4 per cent of total energy generation.

À propos des stratégies technologiques à moyen terme du Royaume-Uni

Fiche numéro 225-11

<http://icadc.cordis.europa.eu>

Le Royaume-Uni met actuellement sur pied des "plates-formes d'innovation" dans des secteurs identifiés dans un récent rapport comme primordiaux pour consolider la position britannique dans l'arène internationale.

Deux plates-formes pilotes ont déjà été instaurées dans les domaines des systèmes et services de transport intelligents et de la sécurité des réseaux. A l'instar des plates-formes technologiques européennes, elles réunissent des entreprises, des organismes de recherche et des institutions gouvernementales.

Les plates-formes d'innovation sont au coeur du document "Stratégie technologique britannique", publié le 26 avril. Ce document esquisse les conclusions initiales auxquelles est parvenu le Conseil de stratégie technologique

(Technology Strategy Board - TSB) en ce qui touche à sept secteurs technologiques prioritaires identifiés en 2005, ainsi que des stratégies à moyen terme. Ces secteurs prioritaires sont:

- les matériaux avancés;
- les biosciences et les soins de santé;
- l'ingénierie de conception et la fabrication avancée;
- l'électronique et la photonique;
- les technologies émergentes dans le domaine de l'énergie;
- les technologies de l'information et de la communication (TIC);
- la production et la consommation durables.

"Le gouvernement s'est fermement engagé à investir dans l'avenir du Royaume-Uni", a déclaré le ministre britannique des sciences et de l'innovation, lord Sainsbury. "Ces stratégies à moyen terme fournissent une vision d'avenir apte à guider les investissements continus menés par le gouvernement en faveur des technologies d'avant-garde qui étayeront la croissance des entreprises et sont axées autour des propres priorités de ces dernières dans l'optique des défis concurrentiels qui les attendent."

Dans le domaine des matériaux avancés, le TSB a identifié deux priorités: les matériaux propres à permettre des évolutions dans le secteur de la fourniture et de la distribution d'énergie; et les matériaux de détection et de diagnostic. Les auteurs du rapport préconisent également la mise en place d'un réseau dédié aux matériaux avancés.

Dans le domaine de l'ingénierie de conception et de la fabrication avancée, le TSB insiste sur l'importance de la conceptualisation, de la simulation et de la modélisation, soulignant que "pour conserver leur rang dans la compétition mondiale, les sociétés britanniques vont devoir collaborer avec la base de recherche universitaire à la poursuite du développement de techniques de fabrication avancées, parmi lesquelles le contrôle intelligent de processus, les technologies d'étanchéité haut de gamme et la conception de surfaces spéciales et d'autres propriétés faisant appel aux nanotechnologies."

Le potentiel croissant des secteurs de l'électronique et de la photonique tient aux exigences de fonctionnalité grandissantes à l'égard de composants dont la taille ne cesse de se réduire. Les atouts dont dispose le Royaume-Uni dans le calcul informatique haute performance et en "grille" constituent autant de chances à saisir dans l'aérospatiale et la défense, les soins de santé, la logistique des transports et les services financiers, selon le rapport.

Au chapitre de la production et de la consommation durables, le TSB a identifié quatre secteurs clés dans lesquels il affirme que le Royaume-Uni est en mesure de capitaliser sur la croissance des marchés mondiaux: l'efficacité énergétique;

l'efficacité des ressources et la gestion des déchets; les technologies visant à pérenniser les chaînes agro-alimentaires; et les technologies du secteur de l'eau.

Tous secteurs confondus, les auteurs dégagent la nécessité d'une approche plus holistique, incluant la mise au point de normes et le développement de la métrologie. "On suscitera ainsi à l'égard de la performance des nouvelles technologies un climat de confiance qui permettra d'en élargir les applications et d'en accélérer l'adoption", peut-on lire dans le rapport.

Le TSB espère que la Stratégie technologique permettra non seulement de rendre le Royaume-Uni plus attrayant pour les entreprises internationales envisageant de s'y délocaliser, mais aussi de dynamiser la coopération internationale en accroissant la participation britannique dans les programmes de recherche de l'UE. "L'un des grands objectifs est de s'assurer que les entreprises britanniques sont en mesure de tirer parti du réseau et du soutien mis à disposition via la Stratégie technologique en tant que tremplin vers une collaboration européenne élargie au travers du [Septième programme-cadre (7e PC)]."

Le TSB a appelé les milieux d'affaires britanniques à lui soumettre leurs commentaires sur le document, de manière à pouvoir utiliser cette contribution pour façonner les stratégies technologiques au fil de leur évolution.

D'une annonce par le président Chirac de mesures pour stimuler la technologie

Fiche numéro 225-12

<http://icadc.cordis.europa.eu>

Le président français Jacques Chirac a fait part des plans de financement de six nouveaux grands projets technologiques destinés à relancer l'industrie et l'économie à la traîne de la France.

L'annonce intervient à un moment où la France accuse un retard au niveau européen et mondial en termes d'investissement dans la recherche et la technologie. Le président a souligné que la Chine dépense cinq fois plus que la France dans le domaine de la recherche et que parmi les 30 entreprises mondiales qui investissent le plus dans la recherche on ne compte à ce jour qu'une seule entreprise française.

Une partie des fonds alloués aux projets proviendra de la nouvelle Agence française de l'innovation industrielle (AII), qui a perçu de l'Etat une enveloppe totale de 2 milliards d'euros pour appuyer la technologie innovante au niveau national et européen.

Le président a décrit l'agence comme "l'outil essentiel, le catalyseur" qui permettra à la France de renforcer l'excellence de l'industrie et des services, et de créer de nouveaux emplois hautement qualifiés. En investissant dans la science, l'innovation et l'industrie, la France pourra se défaire de son image d'un "pays-musée", a-t-il ajouté.

Parmi les projets "novateurs" ayant reçus des fonds figurent Quaero, une initiative franco-allemande destinée à concevoir un puissant moteur de recherche multimédia capable, selon ses concepteurs, de concurrencer des géants du marché comme Google et Yahoo; Neo Val, un train ultraléger utilisant la technologie de stockage de l'énergie; et BioHub, un procédé permettant de fabriquer des matières plastiques à base d'amidon. L'agence envisage de financer un total de 30 projets semblables d'ici la fin de l'année.

De la mise en oeuvre de la loi de programme pour la recherche en France

Fiche numéro 225-13

<http://www.recherche.gouv.fr/discours/2006/loiprogrecherche.htm>

Le ministre délégué à l'enseignement supérieur et à la recherche a présenté une communication relative à la mise en oeuvre de la loi de programme pour la recherche et du Pacte pour la recherche.

La loi de programme pour la recherche du 18 avril 2006 constitue le volet législatif du Pacte pour la recherche, qui réforme en profondeur le système de recherche et d'innovation français.

Rappelant l'effort financier historique engagé dans ce cadre avec 19,4 milliards d'euros supplémentaires entre 2005 et 2010, le Gouvernement a réaffirmé les ambitions de la réforme : renforcement des capacités d'orientation de la politique de recherche, rénovation des modes de coopération scientifique qui conféreront notamment aux universités un rôle de premier plan, incitations en faveur de la recherche partenariale et de la recherche privée ; renforcement de l'attractivité des carrières scientifiques et incitations au recrutement de jeunes chercheurs.

Le Haut conseil de la science et de la technologie, placé auprès du Président de la République, sera mis en place dans les prochaines semaines. Ses avis éclaireront les grands choix de la politique de recherche et d'innovation de notre pays.

Les premières coopérations scientifiques organisées selon les modalités introduites par le nouveau cadre législatif devraient être mises en place avant l'été. La nouvelle Agence d'évaluation de la recherche et de l'enseignement supérieur sera installée pour la rentrée universitaire et ses modalités de fonctionnement seront fixées à cette échéance.

Les efforts de revalorisation des allocations de recherche seront poursuivis en 2007 et contribueront à la résorption de la pratique des " libéralités ". Le recrutement des jeunes docteurs dans les entreprises sera favorisé. Il s'agit donc de mesures ambitieuses pour l'emploi scientifique public et privé.

D'une diminution du ratio R-D/PNB norvégien pour 2004

Fiche numéro 225-14

<http://www.forskningsradet.no/servlet/Satellite?c=GenerellArtikkel&cid=1142297132040&pagename=ForskningsradetEngelsk%2FGenerellArtikkel%2FVisMedHovedtilhorighet>

According to statistics from Studies in Innovation, Research and Education, NIFU STEP, Norway is now even further away from reaching the political goal of raising the share of R&D expenditures up to 3 percent of its GNP within 2010.

Norway's research and development expenditures in 2004 were NOK 27.7 billion. This represents a nominal increase of NOK 400 million compared to 2003. In real terms, however, it constitutes a decrease of 1.1 percent. Thus, the share of GNP shrank from 1.73 percent in 2003 to 1.62 in 2004. In comparison, the average share in the OECD countries was approximately 2.2 percent of the GNP. The statistics show that the decrease in Norway is due to the fact that the business sector has reduced its investments in research. The actual decline of R&D expenditures by the business sector was 7 percent from 2003 to 2004.

The exact amount of R&D spending one has to attain in 2010 in order to reach the 3 percent goal, is of course impossible to say, as the development of the GNP is uncertain. However, estimates show that it has to be somewhere in the vicinity of NOK 60-70 billion, which will require an annual growth of between NOK 5.5 and 7 billion from 2005.

Du plus récent rapport concernant les indicateurs S-T de la Norvège

Fiche numéro 225-15

<http://www.forskningsradet.no/servlet/Satellite?c=GenerellArtikkel&pagename=ForskningradetNorsk%2FGenerellArtikkel%2FVisMedHovedtilhorighet&cid=1142297130778>

A new edition of a colossal report which quantifies and analyses the state of Norwegian research every second year, is out now.

It goes by the name of Indikatorrapporten ("The Norwegian indicator report"), the report on science and technology indicators for Norway. To some people it may seem as a mind-numbing collection of dry facts, but not to those concerned with research and research policy.

Director general of the Research Council of Norway, Arvid Hallén, is definitely among those who will have benefit greatly from the report on the state of Norwegian research.

"The report comes at the right time. Lately we've seen that research has been put higher up on the agenda, and the political will to increase the funding of research is greater than it was before," Hallén stated.

"The goal of the new Government White Paper on Research is to increase the public funding of research to the equivalent of one percent of Norway's GNP.

That's a lot of money, and obviously the research policy has to be based on knowledge," the director general said.

"This is where the Norwegian indicator report comes in. Personally I will spend a lot of time looking into it. A great deal of the statistics is already familiar, but the analyses may provide a new understanding and open up new perspectives which have never been thought of before."

Why are the figures from 2003?

The new report is the fifth in the series of indicator reports. Every second year since 1997 the Research Council of Norway has published the extensive reference book in cooperation with Studies in Innovation, Research and Education (NIFU STEP) and Statistics Norway.

The 2005 version, which is now finished, is based on surveys carried out in 2004 and 2005. Hence, the results come in the form of figures from 2003 and some figures from 2004. Updates and surveys carried out after that have been included as far as possible," said editor Kirsten Wille Maus from NIFU STEP in the preface to the report.

The report has four main chapters. The first one gives a survey of the amount of money that has been spent in various parts of the research and innovation system. The second one concerns the researchers, the third chapter deals with the cooperation between research institutions, and the fourth one concerns the results of research and innovation. All the chapters include international comparative analyses and comparative analyses of previous years.

Less research in the business sector

How has Norway evolved as a research nation since the last report? Read it, and you will see. Arvid Hallén finds it noteworthy that the increase in the research funding from private industry was very small. From 2001 till 2003 the funding increase was merely 1.2 percent per year, while the annual growth in the period from 1999 till 2003 was an entire 12 percent.

"This tells us something important about the kind of private industry we have when it comes to R&D funding, and it leaves us with great challenges if Norway is to reach the goals stated in the Government's White Paper on Research. How to change this picture is a crucial issue in the politics of research, and it requires that we quickly find sensible solutions.

Hallén is more pleased with the facts concerning the Norwegian involvement in the 6th Framework Programme of the E.U. In 2004 Norway was involved in 1480 applications, of which 390, or 26 percent, were granted funds. This is nine percent above the E.U. average, where the success rate for applications is 17 percent.

This is part of a process that restructures the patterns of cooperation in European research. It's nice that the Norwegian participants have been aggressive and that they have had considerable success. But there is still room for improvement," Hallén said.

He also finds it comforting that Norwegians have become more positive in their opinion of research and especially of biotechnology. In 2004 65 percent of the subjects questioned in an attitude survey thought the advantages of research were greater than the disadvantages. In 1999 the percentage was 43, so we see a distinct increase in positive attitudes towards research.

Au sujet des prochaines étapes de la PSTI britannique

Fiche numéro 225-16

http://www.bulletins-electroniques.com/rapports/smm06_037.htm

A l'occasion de la publication du Budget en mars 2006, le gouvernement britannique a publié un document intitulé "Science and innovation investment framework 2004-2014: next steps" ("les prochaines étapes du cadre d'investissement 2004-2014 pour la science et l'innovation"). Ce texte annonce des mesures diverses incluant des propositions pour la réforme radicale du mécanisme de financement d'une partie de la recherche universitaire ou encore pour une restructuration majeure des conseils de recherche. Une grande partie de ce document sert de fondement à des consultations qui auront lieu jusqu'à l'automne 2006.

En se fondant sur la situation actuelle du pays et en s'inspirant des exemples étrangers, le gouvernement souhaite soumettre à consultation un certain nombre de propositions destinées à créer au Royaume-Uni un "écosystème" favorable à l'innovation. Ces propositions, fortement placées sous le signe du transfert de connaissance et des performances économiques, touchent cinq domaines clés :

- l'impact sur l'économie de l'investissement public en sciences ;
- l'efficacité des conseils de recherche ;
- l'excellence de la recherche universitaire ;
- la recherche médicale ;
- les diplômés en sciences, technologies, sciences de l'ingénieur et mathématiques.

Au sommaire de ce pdf :

1. L'impact sur l'économie de l'investissement public en sciences
2. L'efficacité des conseils de recherche
3. L'excellence de la recherche
4. La recherche médicale

5. Les diplômés en sciences, technologies, sciences de l'ingénieur et mathématiques.

* Le document peut être télédéchargé dans son entier à l'adresse URL ci-haut.