

EDITO



As you will read in this newsletter, IFP School has successfully launched its first MOOC (Massive Open On-Line Course) on sustainable mobility. It is a true success as it gathered together over 3000 participants from 67 different countries and 59% of the "active" participants followed through to the end of the course. Above all, feedback from the participants has been very positive. For a first attempt, and on such a specialized topic, that is pretty good.

But beyond the "anecdote" of the success of this initiative, or even the fact that it is the "in" thing to do, I, personally, see it as a significant illustration of IFP School's values and development strategy.

First of all the topic chosen. Sustainable mobility is an essential component of the energy transition, which is at the core of the courses offered by IFP School. It is a perfect illustration of the complexity and the inextricable inter-linking of the energy systems from primary energy sources to end uses.

This MOOC also demonstrates the School's policy of openness, openness to the world and intellectual openness. With several international programs, 50% foreign students and numerous cooperative programs with universities throughout the world, IFP School has for many years asserted its international openness. But this MOOC has enabled us to widen this scope even more. Paradoxically, this openness has also been expressed within the School with three different sectors (Economics, Refining and Engines) involved in a multi-disciplinary project that has been extremely enriching for the teams.

I must also mention the creativity of this team of highly motivated professors who put all their effort and imagination into developing this MOOC. The introduction of a serious game is, I believe, a first, and this method of assessment, combining innovation, originality and fun won unanimous applause from participants. I am sure that this approach will rapidly become part of our more traditional courses.

And this demonstrates, once again, the School's investment in a silent but radical revolution, the educational revolution that aims to place the student, and not the professor, at the heart of the learning process. New Information and Communication Technologies are catalysts and facilitators of this revolution but it should be remembered that they are merely tools at the service of new teaching approaches.

In conclusion, I can but stress, at the end of 2014, the symbolic nature of this initiative as we celebrate the 90th anniversary of our School.

Season's greetings to you all.

Happy reading!

Philippe Pinchon
Dean
IFP School

BRIEF

The Class of 2015

The Class of 2015 started the new academic year on 1st September 2014: 338 new students joined one of the 10 industry-oriented programs.

Amongst them, 121 are in upstream and 73 in downstream programs, 76 are following programs on engines and 68 programs in the field of economics.

A multicultural cohort

The Class of 2015 is made up of students from 49 different countries. 52% of the School's intake are thus international students, mainly from the major oil and gas producing countries but also from European and BRIC countries.

This high proportion of international students is an example of the School's openness to the world. This year the five countries most represented (with nine or more students each) are Spain, Belgium, China, the United States and India. To this can be added seven other countries (with more than five students): Brazil, Russia, Colombia, Nigeria, Argentina, Bolivia and Italy.

From France, the nine engineering schools most represented are ENSAM, Supélec, ENSCP, EMN, CPE Lyon, EMSE, ENSIC, INSA Rouen and EMP, each of which have more than five students in the School.



During Integration Week, students from the 2015 Class took part, on 5 September, in a sports challenge at the Château de Vert-Mont.

The Class of 2015 at a glance:

- 163 French students
- 175 International students
- 27% Female
- 142 Apprentices
- 109 Sponsored students
- 38 Professionals on study leave

Industrial support for the 2015 Class

IFP School's industry-oriented programs are based on strong ties with industry. This year, 289 students benefit from the support of our industrial partners.

There are three types of industrial support: **sponsorship** through scholarships financed by corporate funding, **apprenticeship** for courses alternating periods in the School with periods in companies, and **study leave** for professionals already working in industry, who follow one of the School's courses in order to earn a degree.

Over 60 companies have formed partnerships with IFP School to finance students, apprentices and/or professionals on study leave. Six companies support 10 students or more: Total, Technip, ExxonMobil, PSA Peugeot Citroën, Axens and IFP Energies nouvelles. Amongst those who support five students or more are: Perenco, GDF Suez, Renault, Statoil, Air Liquide, Volvo Powertrain and Delphi.

This year, IFP School students can also count on the support of Maria van der Hoeven, Head of the International Energy Agency (IEA), patron of the 2015 Class. The patronage ceremony will take place on 17 March 2015.

FOCUS

A great success for IFP School's MOOC

Feedback on an innovative educational experiment

IFP School's first MOOC, *Sustainable mobility: technical and environmental challenges for the automotive sector*, has been a great success.

On the subject of sustainable mobility, taught entirely in English between 3 and 30 November, this free on-line course attracted over 3 000 people from 67 different countries.

IFP School MOOCers are mainly students and young professionals from the fields of energy and powertrains, under 35 years of age. Most of them are from five countries: France, Spain, India, Italy and Venezuela.

Over four weeks, they discovered how powertrains work, how fuels are produced, the environmental and economic challenges facing the automotive industry and the future of transport, through a variety of teaching aids (videos, interactive quizzes, forums, etc.).

For 83% of these e-learners, it was their first MOOC. 31% followed the course through to the end and completed all the activities proposed. This figure is based on the number of people registered.

The completion rate jumps to 59% if we take the number of active participants as the denominator (i.e. taking into account everyone who did the first quiz).

"That is a very high completion rate!" exclaims Sébastien Bianchi, Project leader and lecturer in IFP School's Center for Economics and Management. "On average, the percentage of e-learners who finish an on-line course is around 10%. We have reached our objectives: attract new students, increase our visibility and promote experimentation of teaching methods."

For Olivier Bernaert, Head of the "Élan pédagogique" project and lecturer for the MOOC, this success can be partly explained by the integration of a serious game (see Newsletter no. 23) in the course. Thanks to the game's immersive, interactive and fun activities, participants were able to assess and validate the skills learned as they progressed through the course.

"Our MOOC is unique in its design because of the serious game. People are not used to being assessed through this kind of tool. 96% of our participants felt it had had a positive impact on their learning!" he explains.

Philippe Pinchon, Dean of IFP School, expresses his satisfaction: "The MOOC is a collective success."

Results in terms of visibility are equally up to expectations. The School has been congratulated by several industrial partners and former students for this initiative.

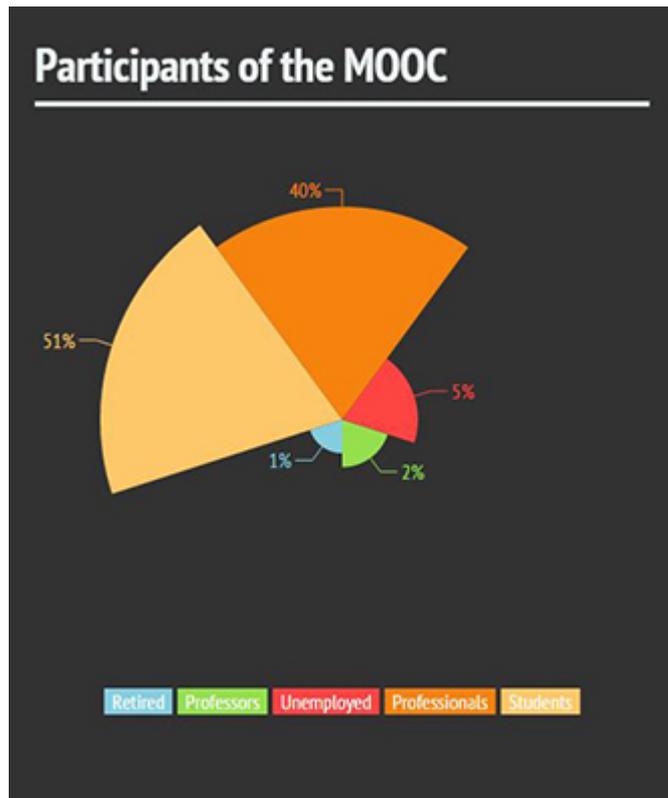
The course gave rise to numerous comments on social networks. Nicolas Goldberg, a graduate of Supélec, posted his reaction on Twitter: "End of the MOOC @IfpSchool, awaiting results. Thanks for this innovative and enriching course!". On Facebook, Ellie Rusling from Rochester in the United States writes: "The timeliness of this MOOC on sustainable mobility and its availability to professionals in all disciplines is most welcome."

The IFP School MOOC also had coverage in the press. Its launch was reported in the Indian review, [The Hindu](#) (10 November 2014). The daily newspaper *Le Monde* rated it amongst the [seven MOOCs](#) of the new academic year (13 November 2014, Claire Ané and Matteo Maillard).

For Matthieu Cisel, blogger of *EducPros.fr* and researcher on MOOCs, the integration of the serious game in the MOOC was an "[excellent initiative](#)", long overdue (16 October 2014).

The MOOC at a glance:

- 3099 people registered
- 31% completion rate
- 76% male participants 23% female
- 11% of participants are IFP School graduates
- 92% of participants were satisfied with the course



The MOOC has also been a success in terms of educational experimentation. It mobilized a team of seven professors from the Center for Economics and Management, the Center for IC Engines and Hydrocarbon Utilizations and the Center for Refining, Petrochemicals, Gas, which helped to reinforce collaborative work.

The professors acquired additional skills in methodology, particularly during the preparation of the MOOC's teaching plan and the story board. With video a core element of the project, they learnt to handle this tool and to integrate it more effectively in their courses.

"This first teaching experiment showed us how we can use new media in our teaching and in our communication with students," says Maria Thirouard, research lecturer at IFP School and lecturer for the MOOC.

Avenues for improvement

A few weeks after the end of the MOOC, the teaching team have begun to analyze the statistics and to consider improvements to be made. The end-of-course opinion poll highlights possibilities for improvement concerning the language and the schedule for the MOOC.

"Some of our participants would like to have English sub-titles to follow the videos more easily. Others suggest modifying the workload of the third week," explains Sébastien Bianchi. "To improve the quality of our videos we hope to get a coach to help the professors become more lively in front of the camera – not an easy exercise!"

The next steps

After the success of its first MOOC, IFP School is preparing a second course entitled "**Oil and Gas: from exploration to distribution**".

This course will address the entire oil and natural gas chain. It will be taught in English during the second quarter of 2015. For further information on this new project, click on [MOOC](#).

LIVE

Interview with Jean-Baptiste Renard, President of the IFP School Alumni Association

On the occasion of the 90th anniversary of the IFP School Alumni Association, we talk with Jean-Baptiste Renard, President of the Association since 2011, who has just been reelected for another year.



1. What conclusions can you draw from the past four years as President of the Association?

We are very proud of what we have achieved over the past few years. To meet the needs of a younger and more internationally diverse community with methods and networks very different from those of the older alumni, we have successfully set up several initiatives.

Drinks & Network, a re-look for our magazine (on-line and often in English), an official LinkedIn group with over 2600 members, etc. Such initiatives make the network more useful for everyone.

2. What are the main challenges facing the Association?

Beyond the modernization and internationalization of our tools, we have to meet the challenge that almost all alumni associations face: maintain the number of fee paying members in a world where everyone expects everything to be free.

The new generations sometimes find it difficult to understand how we can help them once they have set up their own LinkedIn or Facebook networks. It is up to us to show them ...

3. What will be the Association's projects in 2015?

We have decided on three priorities for 2015:

- An objective shared with the School to have 50% of next year's graduates becoming members of the Association.
- A second objective shared with the School: a serious update of our alumni database – a titanic task ...
- A revamping of our "Jobs and Careers", using modern networking techniques and capitalizing on our success on LinkedIn.

ASSOCIATION

The Alumni Association celebrates its 90th anniversary cruising along the Seine

The IFP School Alumni (AAID) celebrated, with great panache, its 90th anniversary on Friday 5th December.

For this occasion, the Association organized a dinner on board the *Yachts de Paris Mirage* cruiser.

Some 160 guests attended this very special evening, in the presence of the guest of honor, Jean Sentenac (RAF 84), CEO of Axens, Jean-Baptiste Renard, President of the Association, and Philippe Pinchon, Dean of the School.

"This evening testifies to the vitality of the Alumni Association and its network of former students. I am happy that Axens, who rely considerably on IFP School, were able to contribute to this splendid event," said Mr. Sentenac.

"It is always a great pleasure to meet up with former students and to converse with other generations. It is even more special on the occasion of the Association's 90th anniversary!" added Philippe Pinchon.

The dinner was financed by six sponsors: Axens, Perenco, Crealyst, SEA, Technip and IFP Training.

The Association awarded the "Prix de l'Amicale" to Sophia Chorazewiez, Events Officer at IFPEN, (EEN 89) and to Jean-Claude Charlot (RAF 61) in recognition of their long-standing support and commitment to the Association.

New issue of *Hydrocarbure*

Number 259 of the review *Hydrocarbure*, published by the IFP School Alumni Association, is now available.

This new issue reports on the Association's 90th anniversary.

To receive a hard copy, fee-paying members can contact Dolores Santos (dolores.santos@ifpen.fr).

NEWS

30th anniversary of IFP School's Open Day



The 30th Open Day on "Jobs and Careers in Energy and Powertrains" took place on 21 November 2014.

This Open Day allows young students with four or five years of higher education to discover what the School has to offer in terms of courses, job opportunities, its international scope and its strong ties with industry.

Some 250 students from French engineering schools and universities eagerly toured the Rueil-Malmaison campus taking part in the various workshops organized by former students now working in the industry.

The day ended with two round-tables, "Careers and the Energy Transition" and "Careers and the Engines of Tomorrow's World", during which students had the privilege of exchanging points of view with leaders of the major companies: Axens, Bosch, Delphi, ExxonMobil, GDF Suez, IFP Energies nouvelles, PSA Peugeot Citroën, Schlumberger, Technip and Total.

IFP School - ITB academic partnership

On 31 October, IFP School signed an academic partnership with the *Bandung Institute of Technology* (ITB).

Founded in 1920, ITB is Indonesia's oldest technology-oriented state university.

This new partnership consists of an integrated course which is part of IFP School's Reservoir Geoscience and Engineering (RGE) program, taught in English.



It gives students the opportunity to do part of their course in the two institutions and to be awarded a double degree. Students will follow the first semester at ITB, the following two in IFP School, the fourth on an industrial work placement and for the final semester they will return to ITB.

For this program, Total will grant scholarships to several students and will give their backing to training programs for ITB professors.

In January 2008, a first academic agreement was signed and, within that framework, IFP School professors gave courses in Bandung between 2008 and 2014 for the Master in Petroleum Engineering. This new partnership reinforces the relations between IFP School and ITB.

ITB thus joins the other three IFP School partners for the RGE program: *Texas A&M University*, *Gubkin Russian State University of Oil and Gas* and the *Instituto Tecnológico de Buenos Aires* (ITBA).

This new partnership was signed at Total's Head Office in Paris in the presence of Professor Akhmaloka, Rector of ITB, Philippe Pinchon, Dean of IFP School, and Hardy Pramono, CEO of Total E&P Indonesia.

Agreement between the Mexican Secretariat of Energy and IFP School

The Mexican Secretariat of Energy (SENER) and IFP Energies nouvelles / IFP School signed an agreement on 22 September for graduate and continuous education programs in the oil and gas sector.

The agreement was signed in Mexico by Pedro Joaquín Coldwell, Energy Secretary, Leonardo Beltrán Rodríguez, Deputy Secretary for Energy, and Olivier Appert, Chairman of IFP Energies nouvelles, in the presence of Philippe Pinchon, Dean of IFP School.



The aim of this agreement is to develop the skills of Mexican students and professionals in the oil and gas field, through training programs held in France and in Mexico.