

EDITO



C'est désormais une évidence : la formation est devenue un enjeu mondial, au même titre que la sécurité, la défense, la santé ou le développement économique. La formation est à la base de la lutte contre l'ignorance, les idées reçues, les fausses informations et les idéologies mortifères. Mais la formation, c'est aussi l'espoir d'une progression sociale, d'une vie meilleure et d'une contribution effective à l'amélioration de notre société. Elle est à la base d'un lien social positif. Et pour nos industries, la formation conditionne la qualité du recrutement, le renouvellement et le développement des compétences... Bref, elle est essentielle à leur développement et même à leur survie.

[Lire la suite](#)

It now goes without saying: education and training have become a global issue, just like security, defense, health and economic development. They form the basis for fighting ignorance, popular opinion, false information and deathly ideologies. Education and training, however, also represent hope for social progression, a better life and an effective contribution to improving our society. It forms the basis of a positive social bond. And for our industries, training determines the quality of recruitment, the renewal and development of skills, and so on. In a nutshell, it forms the cornerstone of their development and their very survival.

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Edito

It now goes without saying: education and training have become a global issue, just like security, defense, health and economic development. They form the basis for fighting ignorance, popular opinion, false information and deathly ideologies. Education and training, however, also represent hope for social progression, a better life and an effective contribution to improving our society. It forms the basis of a positive social bond. And for our industries, training determines the quality of recruitment, the renewal and development of skills, and so on. In a nutshell, it forms the cornerstone of their development and their very survival.

Make no mistake, the current crisis is what is stopping us from seeing the wood for the trees. The reality of the situation is that companies in the energy and automobile sectors have never been so hungry for talent able to take up the numerous challenges it faces, be they technological, environmental, economic, organizational, and so on. World competition is already committed in this regard.

Against this backdrop, the issue of appeal becomes a primary concern: the appeal of our industries, the appeal of the jobs offered, the appeal of the careers offered, the appeal of the relevant training program. And, as we know, the young generation, particularly in western countries, have a tendency to turn away from science, technology and industry in general, and the energy sector in particular. This situation can be partly explained by the issue of representation often portrayed by the media. These jobs are often considered to be demanding, not very rewarding and stuck in the past.

Training institutions therefore have a crucial role to play to develop the appeal of technical jobs in the industry. First of all, and to cater to the needs of young people effectively, an institution like IFP School must take a firm, forward-looking stance just like young people do spontaneously. This explains why innovation has become a key word for us. It accompanies the development of transition sectors towards low-carbon energy, it underpins the digital revolution, it plays a crucial role in the development of new teaching methods and it provides the starting point for entrepreneurial training.

We also aim to bolster the diversity of student profiles accepted onto our engineering and master's programs. Such diversification encompasses social origin, gender, nationality and even initial qualifications in addition to providing a means of expanding our recruitment base.

This newsletter is a pretty good illustration of this approach rooted in innovation which has received several international awards.

We hope that you enjoy this issue.

Philippe Pinchon
Dean
IFP School

The ATypical format of the Processes and Polymers program

It was initially under the acronym AT3P that IFP School launched its [Processes and Polymers \(POLY\)](#) program, dedicated to the petrochemical chain as a whole. Nathalie Brunelle (ATP 1994), on the Management Board of Total's Chemicals Division, responsible for strategy, development and research, recently gave an [interview](#) to her former school during which she described her career to date and the advantages of a program with an international focus.

While in the early years the AT3P program included a period in Canada, a partnership arrangement has now been developed with a university in the USA. For the 2nd year running, the POLY program is part of a [partnership](#) between IFP School and the [University of Akron](#) (College of Polymer Science and Polymer Engineering) (USA) via student exchanges. Two students from Akron are currently completing their studies with us, supervised by [Céline Pierre](#).

Recently, moreover, the POLY program manager led a somewhat atypical educational exercise involving a visit to a supermarket in Rueil-Malmaison, close to the School.

She explains the reasoning behind the initiative:

You asked your students to undertake a rather unusual field trip. Could you tell us a little more?

We took some of the students from the program to a local supermarket, familiar to them: the Simply Market! While a trip of this type may raise a few smiles, it is actually vitally important because it brings future engineers into close contact with the end product. Be they working on the production factory floor or as product development managers, these engineers will have to constantly bear in mind that they are the people responsible for guaranteeing product quality, in order to ensure customer/consumer satisfaction.



Why did you use this format?

The visit format is relatively short (1h30), in small groups of 10 students. Our objective is to leave an impression, without necessarily covering all aspects. So we mainly focus on the fresh produce aisles. Via a series of questions/answers initiated by the teacher, the student is encouraged to identify a product's fundamental properties (mechanical resistance, airtightness, etc.). A few anecdotes relating to the historical development of specific products are used to demonstrate the importance of marketing in terms of addressing the implicit demands of consumers and encouraging them to buy.

What lessons can you draw from this experience?

Without a doubt, the students will never approach their shopping in the same way again! We often forget that the plastic packaging used for everyday consumer products meets a set of specifications that are far more complex than we may imagine at first sight. Familiar with our standards, we shake up our habits and consider packaging from a manufacturer's point of view rather than that of a consumer.

Moreover, this visit allows students to recognize the broad families of plastics and identification codes that generally appear beneath the product (flexible polyethylene film, yogurt pots made from polystyrene, polypropylene, etc.).

On the other hand, the increasing complexity of packaging solutions means that it isn't always possible to recognize all of the plastics used. The teacher isn't necessarily able to answer all of the students' questions!

What are your plans taking this forward?

We may increase student participation by introducing a game format whereby they play a more active role rather than simply answering the teacher's questions.

Digital technology at IFP School via the TERG project

The innovative educational initiatives being conducted by the school's teaching staff include the [TERG \(Energy Transition and Global Responsibility\)](#) project, which each year gives a few groups of students the opportunity to make an [educational video](#) to replace conventional written reports. This approach allows students to work in teams and has the advantage of giving them a degree of exposure outside IFP School.

For example, for the purposes of this project, several students from the Center for Refining, Petrochemicals, Gas took part in the "Je filme le métier qui me plaît" (Filming my dream job) competition. With the support and contribution of ENGIE, Maryse Anbar, R&D project manager specializing in Smart Grid technology, helped design a short comedy presenting [her job as a Smart Grid engineer](#). The video proved a hit, securing the "Clap d'Argent" (Silver Clap) prize for the team at the ceremony held at the Grand Rex in Paris on 23rd May.

A comprehensive article by Maryse Anbar on this highly topical theme, entitled "Smart Grids: When it meets power transmission", was published in the latest issue of [IFP School Alumni Mag](#) (paper version, March 2017, pages 30-32).

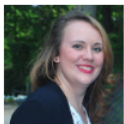


Digital Learning Excellence Awards 2017: IFP School scoops the Grand Prix award!

On 13th June, IFP School scooped the Cegos Group's highest accolade, the **Grand Prix award in the best training initiative of the year category**, for its industrial unit inspection course. Let's not forget that, in 2015, the School won the **E-Learning Excellence Award** in the "best educational training tool" category, for its first MOOC on sustainable mobility. The annual Digital Learning Awards established by the Cegos Group in partnership with AEF are designed to recognize and promote the year's best e-learning training tools.

A pioneer in its educational approach, in 2016, IFP School developed this autonomous training module using virtual reality (photographs, editing, sequences were managed by the School's educational teams). The objective was to prepare students for challenges in the field.

As an applied school, IFP School structures its educational programs around learning situations that are close to reality, with numerous case studies and field visits. The award-winning immersive training module, dedicated to the inspection of industrial units, was aimed at students from the **Energy and Processes program**.



Explanations from Lucie Dhome, Innovation and instructional design manager at IFP School.

Why does IFP School base its educational approach on *learning by doing*?

IFP School is a graduate school offering young engineers the chance to spend a year specializing in the energy and transport fields. The applied programs we deliver are designed to help students acquire technical and behavioral expertise, hence the use of learning by doing whereby students develop skills directly related to industry.

Why did you opt for virtual reality for this industrial unit inspection program?

We started from the observation that many industrial facilities that were the focus of our programs were difficult to access, even during field visits. For example, for this course on furnace inspection, it has to be borne in mind that this type of equipment is only shut down once every 6 years. When we were able to film a 360° view of this unit at Total Oleum, we used it as an opportunity to create our educational material. For students and industry alike, this type of content is an excellent tool for learning at one's own pace.

The benefits of virtual reality are clear to see! How did you manage to integrate this immersive educational solution at a reasonable cost?

In today's start-up era, immersive learning is within everyone's reach. For this project, we worked with 2 start-ups, with *Mines de savoir's* MROD platform for the collaborative and assessment aspect on smartphone, and with *Speedernet's* "Sphere" software to set up a virtual visit. In 2016, we were the first customers to independently set up a Virtual Reality (VR) course on this software and we were delighted to be able to produce our first VR content in a few short weeks. It should be said that equipment prices have fallen significantly, with cameras now costing around €300 and *cardboard viewers* can be found in the supermarkets for 1€ ... it has never been easier to create your own virtual reality tour.

What advice would you give to organizations who'd like to do something similar and make a success of it?

For this project, it was simply a matter of finding a *leader*, someone who was enthusiastic about what we were doing and who could accompany us along the way towards achievable objectives. This first project triggered a snowball effect and we're now working on new, more complex projects with other colleagues. So my advice is to identify really enthusiastic people from the outset.

At IFP School, technology and education are thus inextricably linked! This approach reinforces knowledge acquisition as well as the development of specific expertise and know-how. Following this first pilot experiment, IFP School is planning to rapidly develop further courses integrating virtual reality.

On a closely-related theme, read the article entitled "La révolution numérique et la raffinerie du futur (l'usine 4.0)" - "The digital revolution and the refinery of the future (factory 4.0)" (pages 26-27 of the March 2017 issue of the new IFP School Alumni Mag).

This magazine is aimed at members of the Alumni Association. If you haven't yet signed up, go to: <http://alumni.ifp-school.com/alumniweb/index.php/Actualites/Actualites-AAID/AAID-Le-numero-265-de-notre-revue-vient-de-sortir/> and download the membership form.

Discover the latest news from the Alumni Association

Launching of the Alumni's Got Talent event

The Alumni Association has launched a new kind of event called "IFP School Alumni's Got Talent". It will be the opportunity to present the passion of an IFP School artist, traveler or pioneer.

The first event took place on 2nd May in the School's Statoi room and presented the work of Quentin Meresse (DEG 2016). This young and talented photographer displayed his pictures in an exhibition entitled "In the Wildlife Intimacy" supported by the Association and a cocktail reception was organized for the visitors in the presence of Jean Sentenac, President of the Association.



Discover the latest news from the School

IFP School students victorious in the EAGE Field Challenge



A team of 5 IFP School students from the "Petroleum Geosciences " and "Reservoir Geoscience and Engineering " programs won first prize in the international FIELD Challenge organized by the European Association of Geoscientists & Engineers (EAGE). The final phase, which presented the development of a North Sea field provided by TOTAL, took place on Sunday 11 June 2017 at the annual conference held in Paris, bringing together 8 finalists from Europe and Asia. Teams from the University of Manchester (United Kingdom) and Universiti Teknologi Petronas (Malaysia) took second and third place respectively. This year, IFP School's EAGE Student Chapter also came first in the "Student Chapters" awards organized by the EAGE. This award recognizes the quality and diversity of their activities in the fields of geosciences and reservoir engineering. Many congratulations to the members of this association that was set up only very recently to organize activities such as geology field trips and conferences. It also had a stand at this week's EAGE conference in Paris.

8th Graduation Ceremony



On Saturday 17th June 2017 the Graduation Ceremony for the IFP School Class of 2016 took place. The event was a great success with 200 students being awarded medals by Philippe Pinchon, Dean of IFP School, symbolizing the end of their studies at the School.

The event gathered together over 500 people - graduates, their families and guests, industrial sponsors and staff of the School.

Philippe Pinchon, Dean of IFP School, made the opening speech which was also a farewell since this was the last ceremony he was attending as Dean of the School, his tenure coming up to an end soon.

This year, eight companies sponsored the event: Perenco, Engie, Total, Renault, TechnipFMC, Axens, Esso and Schlumberger.

After the medal-giving ceremony and the series of Class photos, participants were welcomed on board *Le Paquebot* yacht for the now traditional cruise on the Seine.

The IFP School Alumni Association had prepared a stand on the boat where graduates were offered the opportunity to pay membership fees at a preferential rate and hence to become part of the Alumni community and the IFP School network.

An IFP School student arrives 2nd at the SPE European Regional Student Paper Contest

Certificate of Participation

The Society of Petroleum Engineers (SPE) certifies that

Andrea Osorio
IFP School

presented as a contestant in the Master's Division of the
2017 SPE North Sea & South Central Eastern Europe
Regional Student Paper Contest

Krakow • Poland
4 -7 April 2017




Janeen Judah
2017 SPE President


Mark Rubin
SPE CEO & Executive VP



Andrea Osorio, student in the [Reservoir Geoscience and Engineering \(RGE\)](#) program won 2nd place in the [Student Paper Contest](#), Master division in Krakow on 7th April 2017 with the support of [SPE France](#), IFP School and the IFP School Student Chapter that have allowed and allow for "the professional development of students and young engineers", according to the student's own words. Our warmest congratulations for this well-deserved performance!

Renewed success for IFP School's Sustainable mobility MOOC!



The [third edition](#) of the MOOC entitled "Sustainable mobility: technical and environmental challenges for the automotive sector" which took place from 20th February to 18th March, was yet another success: over 5700 learners, i.e. 10% more than the 2nd edition, including more than 85% international MOOCers from 110 countries.

Out of the total number of registrations, 27% followed the entire MOOC and received a certificate of achievement (much higher than the MOOC average). 95% pronounced themselves satisfied or very satisfied and highly recommend this MOOC!

11th Partner Companies Event



On 23rd March, IFP School organized its 11th Partner Companies Event. Students from the School were able to exchange on career opportunities and needs from our sectors' companies and reversely, companies were able to identify profiles of interest for future employment.

In spite of the difficult economic context, the School's graduates remain attractive for recruiters. This was demonstrated by the participation of 13 companies: Altran, Axens, The Boston Consulting Group, ExxonMobil, Hti-Automobile, IFPEN, McKinsey Energy Insights, Perenco, Schlumberger, Sofren Group, Statoil, Total and Vallourec. Two companies took part in this event for the first time, which was an opportunity to establish new contacts.