



THE EUROPEAN PETROCHEMICAL ASSOCIATION

AGE INCLUSION AND DIVERSITY

CHEMISTRY
FOR YOU



FOREWORD

We are delighted to share with you the **“Age Inclusion and Diversity”**; the third in its series on Talent & Diversity published by EPCA since 2016.

This report valuably complements the work which has been conducted since 2015 on the different facets of diversity and inclusion in the petrochemical sector, by addressing the age-related inclusion and diversity challenges facing the European petrochemical sector. Like many other industrial sectors in Europe, the petrochemical workforce is ageing, with large numbers of employees heading for retirement between now and 2025. At the same time, accessing Europe’s young talent pool may prove difficult because of the drop in the younger population’s interest in petrochemicals. Managing 4 or even 5 generations at the workplace also entails defining career paths which remain relevant and attractive to these different generations while fostering one’s inclusion and diversity policies and practices.

This report presents the findings of a study conducted in 2017 and early 2018 by Mark Wolstenholme, Executive Director at EY along with his team, on behalf of the EPCA Talent and Diversity Inclusion Council (TDIC). This research study was conducted in three phases, i.e. a series of 25 interviews with 14 EPCA member companies that was carried out over the summer 2017, a survey launched on the occasion of the EPCA 51st Annual Meeting in October 2017 and a student social media survey launched at the end of 2017.

The preliminary findings of this study were presented and discussed at the Talent & Diversity Session of the EPCA 51st Annual Meeting on Monday 2nd October 2017. We hope this brochure will effectively complement and enrich this discussion for those who participated and will benefit those who could not attend.

This report provides the reader with statistics and data to illustrate the current and projected status of generational diversity within the sector while diving deeper into five key age diversity related themes; each being illustrated with selected best practices from EPCA member companies.

We hope you will find those inspirational and encourage you to share with us your own initiatives and practices to address age diversity opportunities.

In that respect, we would like to invite you to attend the upcoming **Talent & Diversity Session of the EPCA 52nd Annual Meeting to be held on Tuesday 9th October 2018** which will explore further how “Talent & Diversity are essential elements to be a Sustainable, Innovative and Attractive Employer”.

Last but not least, we would like to warmly thank all the contributors to this brochure, without whom this third opus would not have been possible.

Firstly, we express our sincere gratitude to **the members of the Talent & Diversity Council** and the Chairperson, Nathalie Brunelle, for their invaluable contribution to the design of the study, their active participation in the interviews and survey as well as the editing of the final report. The full list of the TDIC members who contributed to this project is given at the end of this foreword section.

We would also like to extend our thanks to the **representatives of the 135 EPCA member companies** who enthusiastically participated in the survey as well as those who shared their time and expertise during a series of interviews with the EY research team and pointed us in the right directions.

Our gratitude also goes to the **355 graduate students from various European Universities** who anonymously shared their understanding of the petrochemical industry and the key factors that would motivate them to join our sector.

Finally, we would like to warmly thank the entire team of **EY**, Mark Wolstenholme, Samuel Huber, Rachel Phillips and Gautier David for designing and conducting the study, providing their insight and expertise in the analysis of the results and presenting those at the Talent & Diversity Session of the EPCA 51st Annual Meeting and in this written report.

Caroline Ciuciu
EPCA CEO
September 2018

EPCA MEMBER COMPANIES WHICH ACTIVELY SUPPORTED THE RESEARCH STUDY CONDUCTED BY EY



EPCA TDIC MEMBERS (AS OF SEPTEMBER 2018)

Nathalie BRUNELLE - TOTAL PETROCHEMICALS & REFINING (Chairperson)
 Dorothee ARNS and Marcelo VOLLMANN - PETROCHEMICALS EUROPE • Emanuele BIANCHI - VERSALIS SpA
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 Maria Pilar ROJAS - REPSOL SA • Hans-Christoph SIX - EVONIK PERFORMANCE MATERIALS
 Mariëlle VERAA - LYONDELLBASELL INDUSTRIES

The study was commissioned by EPCA, and conducted by EY in close collaboration with EPCA.

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EXECUTIVE SUMMARY

It is widely agreed that inclusion and diversity¹ within an organisation are fundamental levers of sustainable competitive advantage, including improved market share, success in new markets² and a greater retention rate³. Against this background, the European Petrochemical Association's (EPCA) Talent & Diversity Inclusion Council (TDIC) commissioned a study to assess the age related inclusion and diversity challenges currently facing the European petrochemical sector. This study, and the subsequent analysis, were supported by EY.

A RECOGNITION OF THE IMPORTANCE OF AGE INCLUSION AND DIVERSITY

There was widespread recognition amongst study participants of the value brought by a diversity of ages within the workforce. Some of the key benefits noted by participants include sustaining knowledge and competencies within their organisation, facilitating the transformation towards a digital world and driving the innovation of new products and services. However, whilst interesting initiatives are underway, work remains to be done to fully address the opportunities raised.

FIVE KEY AGE DIVERSITY RELATED THEMES

From the surveys and interviews conducted, we have identified five key age diversity related themes that will guide our thinking and provide a structure around which the industry's response to age inclusion and diversity can be designed. These five themes are also broadly consistent with the findings of other recent studies contributing to CEFIC's Mid-Century Strategy project due to be published in March 2019.



AGE DIVERSITY INITIATIVES ALREADY UNDERWAY

Over 70% of the EPCA members participating in the study confirm they have already established initiatives to address age diversity opportunities. We have included examples of these for each of the above themes.

Throughout this report we will refer to the different generations present in the today's workforce and will use the following terms:

- **Generation Z**, also known as 'digital natives', born after 1997
- **Generation Y**, frequently called the 'millennials', born between 1984 and 1996
- **Generation X**, born before the 1980s, but after the Baby Boomers
- **Baby Boomers**, born between the early-mid 1940s and the early 1960s

¹ Diversity is defined by EPCA as individual difference in the fields of gender, age, ethnicity, nationality and culture (<https://epca.eu/Diversity>)

² Source: Sylvia Ann Hewlett, Melinda Marshall and Laura Sherbin with Tara Gonsalves, Innovation, Diversity & Market Growth (Center for Talent Innovation, 2013) ([http://www.ey.com/Publication/vwLUAssets/ey-diversity-and-inclusiveness-roadmap-flipbook/\\$FILE/ey-diversity-and-inclusiveness-roadmap-flipbook.pdf](http://www.ey.com/Publication/vwLUAssets/ey-diversity-and-inclusiveness-roadmap-flipbook/$FILE/ey-diversity-and-inclusiveness-roadmap-flipbook.pdf))

³ Source: CEB, Driving Retention and Performance Through Employee Engagement, Arlington, VA, 2008 ([http://www.ey.com/Publication/vwLUAssets/ey-diversity-and-inclusiveness-roadmap-flipbook/\\$FILE/ey-diversity-and-inclusiveness-roadmap-flipbook.pdf](http://www.ey.com/Publication/vwLUAssets/ey-diversity-and-inclusiveness-roadmap-flipbook/$FILE/ey-diversity-and-inclusiveness-roadmap-flipbook.pdf))



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METHODOLOGY

In order to ensure an holistic view of the age inclusion and diversity challenges facing the European petrochemical sector, our approach consisted of obtaining both quantitative and qualitative data from EPCA member organisations as well as from a sample of graduate students at European universities. This approach enabled us to identify the key age inclusion and diversity related themes and to shed light upon some of the associated initiatives being implemented by EPCA member organisations.

EPCA MEMBER SURVEY

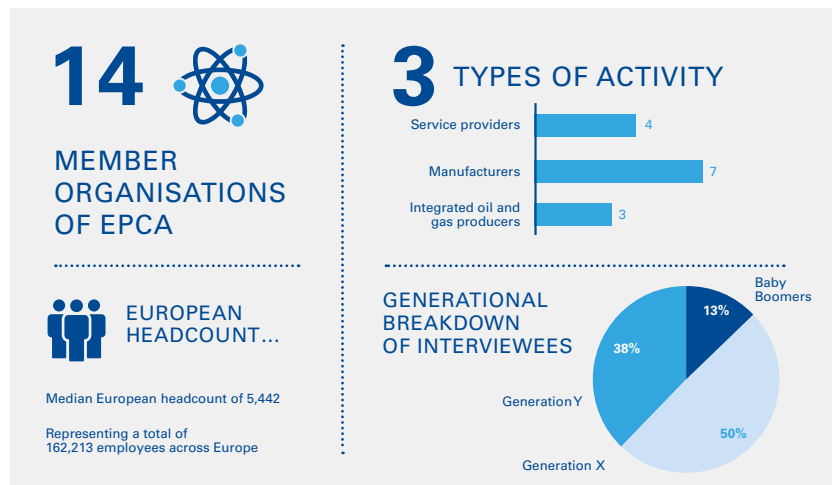
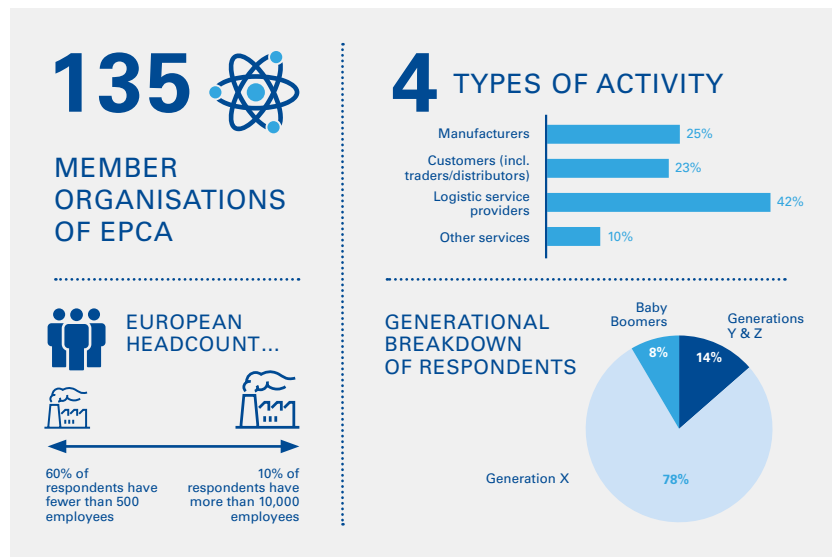
A survey was conducted to gain insights into the current age inclusion and diversity thinking and approaches adopted by EPCA member companies. A total of 135 EPCA member organisations participated in the survey.

EPCA MEMBER INTERVIEWS

EY carried out 25 interviews with 14 EPCA member organisations in order to better understand inter-generational opportunities and to identify existing initiatives. In addition, 12 of the companies interviewed, as well as 3 other EPCA members, provided age pyramid data for their workforces.

STUDENT SOCIAL MEDIA SURVEY

In order to provide an external perspective, 355 graduate students from various European universities were surveyed on their understanding of the petrochemical industry and on the factors that would motivate them to join the sector¹.



¹ We recognise that these responses represent only a small population sample from subject-relevant universities and they are therefore not representative of all graduate students in Europe. Nonetheless, they provide a useful insight that we have built into our analysis

GENERATIONAL DIVERSITY: A BUSINESS IMPERATIVE FOR THE EUROPEAN PETROCHEMICAL SECTOR?

A CHALLENGING GLOBAL ENVIRONMENT...

As a whole, global demand for petrochemicals is projected to increase at a rate of 3-4% annually through until 2020¹. Between 2010 and 2015, however, Europe was the only region to witness a reduction in production (-1,5%) in comparison with positive growth rates in other regions (including China: +9,7%, the Middle East: +5%, and North America: +0,8%)¹. We therefore note growth opportunities globally, but also a competitive environment which will require companies to adapt and innovate in order to differentiate themselves.

... WITH AN AGEING WORKFORCE...

It is well known that the population is ageing in virtually every country in the world with the number of older persons growing faster than the number of people in any other age group. This process is most advanced in high-income countries, with a number of European countries being most impacted². The age pyramids (Figure 1) provide us with an insight into the European population structure from 1950 to 2017 and projected until 2050.

The pressures of these changing European demographics are reflected in the data gathered from 15 representative EPCA member companies (Figure 2) which reflect a steadily ageing workforce with a reducing proportion of employees under 44 years old.

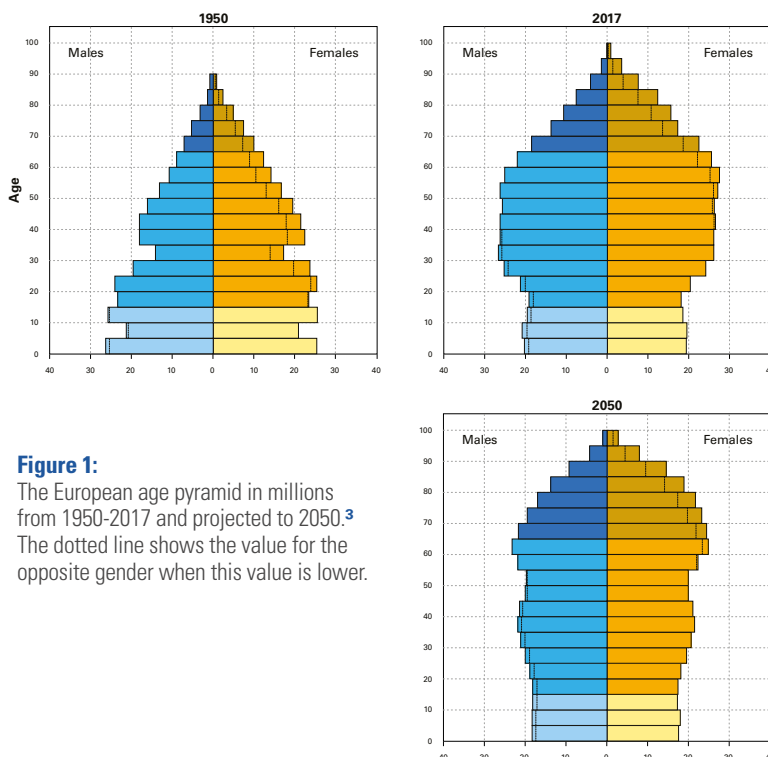


Figure 1: The European age pyramid in millions from 1950-2017 and projected to 2050.³ The dotted line shows the value for the opposite gender when this value is lower.

¹ Source: Xerfi, 'The Global Petrochemical Industry: the market', Market Analysis, 2017– 2023 trends (https://www.xerfi.com/presentationetude/The-Global-Petrochemical-Industry-the-market_7XCHE01)

² Source: World Population Ageing, United Nations Report, 2015 (http://www.un.org/en/development/desa/population/publications/pdf/ageing/WPA2015_Report.pdf)

³ Source: United Nations, Department of Economic and Social Affairs, Population Division (2017), World Population Prospects: The 2017 Revision (<https://esa.un.org/unpd/wpp/Graphs/DemographicProfiles/>)

Evolution from 2013 to 2017

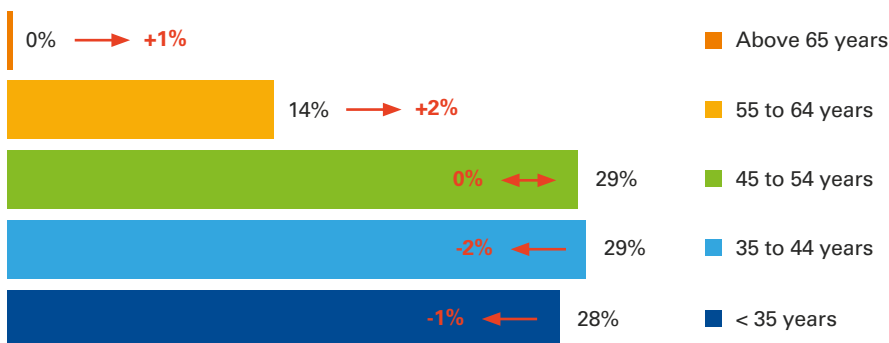


Figure 2: Workforce evolution in each age bracket based on age pyramid data gathered from 15 representative EPCA member companies (2013-2017)

... AND A COMPETITIVE MARKET FOR TALENT

Despite the pressures of an ageing workforce, the European petrochemical industry benefits from a higher level of access to suitable skills, such as scientists and engineers, when compared to most other regions (Figure 3).

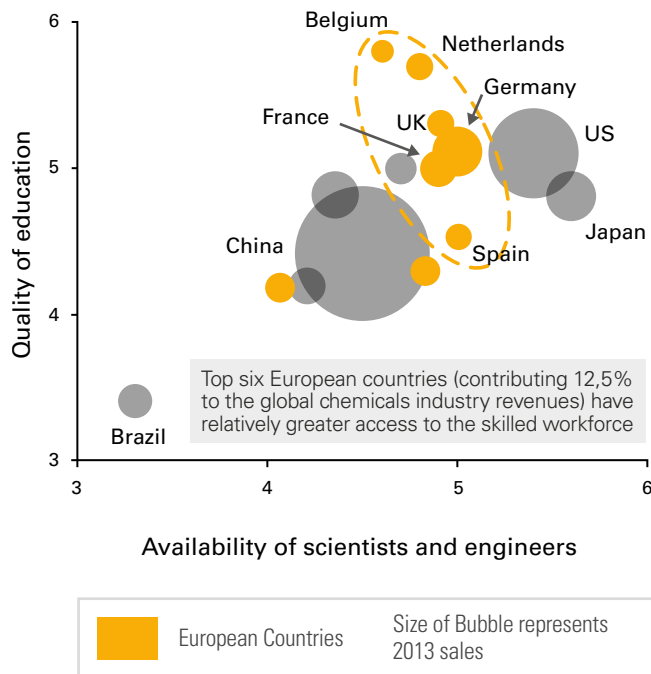
For an innovation-driven industry, especially one that is increasingly focused on producing high-value speciality products, access to these skills is of critical importance.

We also observe, however, the fierce competition for talent in Europe, with sectors such as Finance and IT offering attractive and lucrative alternatives.

Consequently, faced with the loss of key skills and experience as a significant section of the population moves towards retirement and faced with an increasing need to innovate, the European petrochemical industry will need to rethink its strategy in order to remain competitive. In particular:

- How should the industry retain knowledge and expertise within the organisation as key staff move towards retirement?
- How should companies engage and motivate an unprecedented number of generations working under one roof?
- How should petrochemical sector companies successfully attract and retain new talent within an increasingly competitive environment?

Figure 3: Access to skilled workforce in top 15 chemicals-producing nations¹ (WEF GCI ratings: 0 to 7, 7 being best)



¹ Source: CEFIC Facts & Figures 2014, World Economic Forum, GCI dataset 2005-15 ([http://www.ey.com/Publication/vwLUAssets/EY-chemicals-in-europe-the-way-forward/\\$FILE/EY-chemicals-in-europe-the-way-forward.pdf](http://www.ey.com/Publication/vwLUAssets/EY-chemicals-in-europe-the-way-forward/$FILE/EY-chemicals-in-europe-the-way-forward.pdf))

1 - DYNAMIC CAREER PATHS FOR ALL GENERATIONS

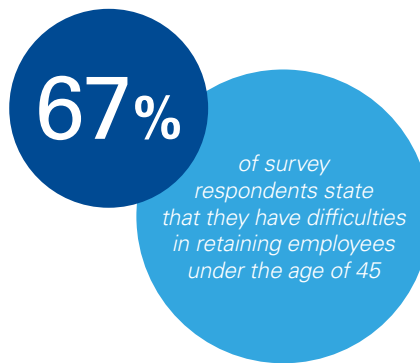
In today's workplace it is common to see four generations working alongside each other. This represents a diverse range of experiences, perceptions and priorities hitherto unseen; it is consequently a challenge for organisations to keep their workforce engaged and motivated. Our interviews and surveys of EPCA members have highlighted the difficulties they face in successfully responding to the career aspirations of all generations present in the workforce.

MANAGING THE EXPECTATIONS OF ALL GENERATIONS



Existing career paths have often been designed in order to meet the expectations and needs of the Baby Boomers and Generation X. Our analysis demonstrates a recognition that these same career paths are no longer as attractive to the Generations Y and Z nor are they necessarily still appropriate to 'for the longer careers of the Baby Boomers or Generation X.

HOW DO THE EXPECTATIONS OF GENERATIONS Y AND Z DIFFER TO THOSE OF THEIR PREDECESSORS?



Our analysis demonstrates that despite efforts to attract and invest in Generations Y and Z (including good compensation packages), a majority of petrochemical sector organisations are finding it increasingly difficult to attract and retain them.

Both the survey and interview responses demonstrate some important differences in the factors that motivate these younger generations in comparison with their predecessors (Figure 4). In particular, interviewees considered that these generations:

- Strive to gain responsibilities more quickly than previous generations
- Are less motivated by vertical promotion and traditional reward plans
- Are attracted to companies that have a clear sense of purpose and wish to have a positive impact on society
- Expect their employer to look after their health at work
- Seek more work/life balance

We note that whilst Generations Y and Z are not primarily driven by a strong compensation package, this does remain an important driver for them (Figure 5).

HOW CAN WE CONTINUE TO ENGAGE THE BABY BOOMERS AND GENERATION X?

Only 15% of survey respondents estimate that their company focuses investment on developing attractive career paths for people over the age of 45. We also note a sentiment amongst interviewees that populations over 40 sometimes feel sidelined by the traditional career management approach often seen in petrochemical sector companies, yet they not only have deep business understanding and technical expertise, they also have a significant number of career-years ahead of them.

Through both the survey and interview responses, we note that the Baby Boomers and Generation X:

- Can find themselves in a comfort zone with little job mobility
- Sometimes fear upcoming digital and big data transformations
- Would be keen to stay engaged even after they retire
- Look for vertical promotion but sometimes face a glass ceiling after the age of 40
- Often wish for a flexible end of career, for instance adapting to any health concerns
- Seek compensation and benefits optimised for their needs

Given limited promotion opportunities, certain companies are also looking at alternative career paths for the Baby Boomers and Generation X, including horizontal movements, mentoring or internal consulting positions which meaningfully utilise their skills and expertise and enable a more flexible career path for those nearing retirement.

¹ of companies with at least 1000 employees



Figure 4: Main divergences in terms of career path aspirations between Generations Y & Z versus Generation X and the Baby Boomers as identified by EPCA member survey respondents

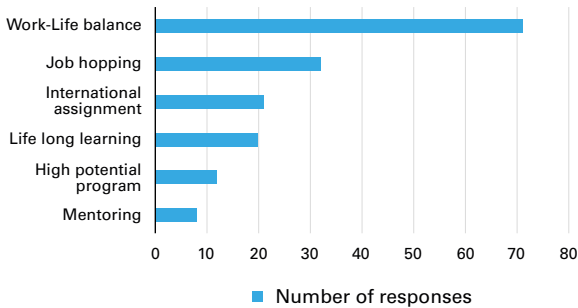
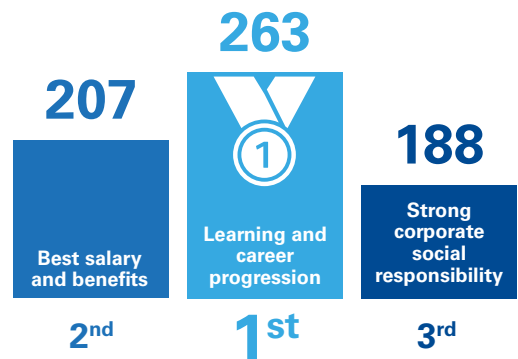


Figure 5: Responses from the Student social media survey when asked to select the top three areas of importance to them in their career



CASE STUDY: INTEGRA
Taking on the role of consultant and coach



OVERVIEW

Senior management within Integra are given the flexibility to select a younger employee with whom they will work closely and who they will mentor/ coach over several years.

How to ensure a smooth transition to retirement?
How to ensure high potential employees receive coaching and support from senior management?

their knowledge and experience to the younger generations. At the same time, this enables senior management to take on a role of 'consultant' and gives them increased flexibility towards the end of their career.

CHALLENGES

How to continue to engage Generation X and the Baby Boomers?

APPROACH

The mentorship and coaching role enables senior management to select and develop younger employees, thereby transitioning



CASE STUDY: PORT OF ROTTERDAM
Agile career moves, both within and across organisations



OVERVIEW

The Port of Rotterdam expects staffing difficulties over the coming years due to an ageing workforce. To address this, the company has begun initiatives that streamline staff movements and align HR policies with Generation Y’s interest in more agile career paths.

CHALLENGES

- How to manage potential future staff shortages?
- How to benefit from external perspectives and experience?
- How to give the youngest employees the work flexibility they expect?

APPROACH

In 2016, the Port of Rotterdam launched a successful initiative called “Opportunity Board”. This program allows all employees to apply for internal (long or short term) assignments next to their jobs.

The Port of Rotterdam is also one of the founders of ‘Rotterdam Werkt’ which develops new ideas to address labour market issues. One initiative involves partnerships between companies to lend talented resources for temporary or permanent needs.

Both programmes are powerful tools in driving a high level of employee engagement. These programmes can, for instance, avoid feelings of career stagnation and encourage the development of new skills through sideways steps. They also enable people to build strong networks across different teams and companies. Both programmes also incorporate the following aims in their career vision and in their labour market communication strategy: Come. Grow. Go.



CASE STUDY: EXXONMOBIL
21st Century Norms



OVERVIEW

Employees are seeking greater workplace flexibility in their daily lives, as well as the ability to make personal choices as their family situation changes throughout their career. ExxonMobil sees these challenges as an opportunity to adapt culture and ways of working in order to respect personal choices, while provide fulfilling careers and strengthening the business.

CHALLENGES

- How do we adapt the way we develop talent and motivate our workforce throughout their career?

How do we find different ways of meeting both business needs and employee aspirations?

APPROACH

ExxonMobil runs regular focus groups to better understand and adapt to the 21st Century culture. Examples and role models across all generations are seen as key, using panel events and podcasts to share stories broadly and provide practical examples to employees, supervisors and leadership.

Mobility: relocation requires more upfront communication to ensure that dual-career, child transition and wider family care can be planned in advance.

Flexibility: the full use of policies requires common-sense ways of working, without the feeling of being seen as lacking commitment.

Digital technology: must be leveraged to enable effective collaboration through a healthy mix of live and virtual teamwork.

2 - TALENT FOR TOMORROW

Our analysis did not provide a clear consensus on whether the European petrochemical industry will face a chronic talent shortage over the next 5-10 years.

A majority of respondents did, however, report both having an understanding of the new skills they will require over this period and of facing a loss of key expertise as older generations leave the workforce.

More worryingly, whilst admitting that the digital revolution will almost certainly bring disruption and opportunities to the petrochemical sector, established recruitment patterns remain very much prevalent.



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DIVERGING FEEDBACK ON THE EASE OF RECRUITING

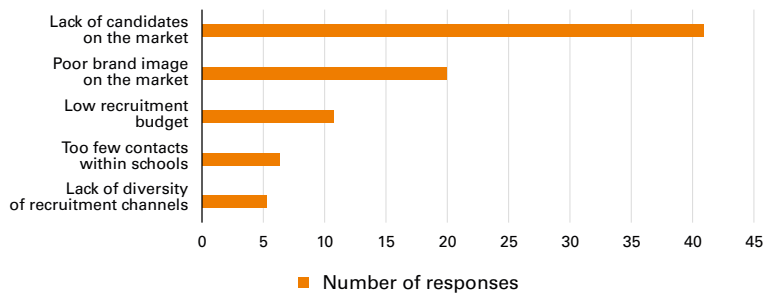
97% of survey respondents stated they are looking to recruit in the next 2-3 years, including 38% who are looking to recruit significantly (the most actively sought profiles being mid-career white collar professionals and junior to mid-career blue collar professionals).

66% of survey respondents reported facing difficulties in hiring young talent for strategic positions

During interviews, several member organisations report facing a shortage of candidates. We note that the majority of firms not reporting a lack of available talent are those that are downsizing or those that have a strong brand name (for instance having a range of activities in their portfolio, including B2C activities).

Both survey and interview responses report a shortage of qualified resources coming from schools and universities. There is a general sentiment that students are deserting manufacturing dedicated curriculums in favour of technology related curriculums which have become increasingly appealing for students.

Figure 6: The top three recruitment challenges selected by 66% of EPCA member survey respondents who reported facing difficulties in hiring young talent for strategic positions.



IDENTIFYING AND OBTAINING THE SKILLS THAT DEFINE THE ORGANISATIONS OF TOMORROW

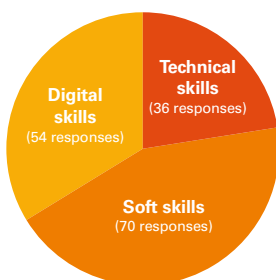
In recent years, advances in technology have enabled organisations across all geographies and industry sectors to adapt and transform. The digital transformation, including automation, artificial intelligence and data analytics, is providing widespread disruption to the way organisations operate and engage with their workforces and customers. Leveraging these new technologies represents significant opportunities for the petrochemical industry but also requires new skillsets.

Despite these potential opportunities, there was a recognition amongst interviewees that their workforce’s readiness for change is low, in particular lacking the skills needed to embrace new disruptive business models.

86% of survey respondents reported having a partial or full understanding of the skills they will need in the next 5-10 years

When asked to select the skills they believe to be critical over the coming 5 to 10 years, soft skills was selected most often by survey respondents (Figure 7). In addition, logistic service providers (68%) and companies with over 10,000 employees (100%) were most likely to include digital skills in their top 3 critical skills.

Figure 7: The skills considered critical for the next 5 to 10 years as identified by EPCA member survey respondents.



- **Soft skills:** include change leadership, communication, team-building, stewardship and networking
- **Technical/ hard skills:** include chemistry, quality & testing, manufacturing, engineering and maintenance
- **Digital skills:** include cloud, robotics automation, data analytics, artificial intelligence and cyber security



CASE STUDY: EVONIK

Starting a career in Research & Development



OVERVIEW

Whilst working on young talent retention, Evonik observed that young engineers starting their career in R&D dedicated entities experienced a smoother transition between the university and business worlds. High retention rates have been observed since a formal program was set up.

CHALLENGES

How do we successfully integrate engineering graduates into the business world and increase their retention rate?

How do we leverage innovative ideas from new joiners?

APPROACH

Most of Evonik’s young chemical and process engineers are offered a job in the “Technology Infrastructure” entity.

These recruits usually work on new products or process development as a continuity with the academic projects they carried out at university. This is an attractive way for young engineers to bring knowledge to Evonik whilst adapting to the work environment.

After a period of time spent in “Technology Infrastructure”, chemicals and process engineers usually join the business, typically in a managerial role with substantial commercial activities. According to interviewees, recruitment in this part of Evonik’s organisation is often very successful.



CASE STUDY: LYONDELLBASELL

Young Talents Development Programs



OVERVIEW

With an aging workforce in Europe, LyondellBasell saw the need to design options for career paths internationally across the company, providing development opportunities for younger generations in order to support personal development whilst contributing to the success of the company.

CHALLENGES

In the context of an aging workforce and employee willingness to be mobile, how can we create a pool of mobile and multi-skilled

technical talent with the ability to backfill managerial positions in the mid/long term?

APPROACH

LyondellBasell acknowledged the need for young employees to gain as much experience as possible in the various fields of its operations, and therefore launched the Top Technical Talent program to:

- Take advantage of the diversity of their geographies and technologies to build and develop company propriety knowledge
- Help backfill future vacant positions internationally in Europe

- Prepare future leaders in an international environment

3 - BRAND ATTRACTIVENESS

BRAND ATTRACTIVENESS IS NOT CONSIDERED A PRIORITY FOR AGE INCLUSION AND DIVERSITY...

Only 23% of survey respondents considered brand attractiveness to be one of the top three generational issues facing the petrochemical industry today.

...HOWEVER WE NOTE A MIXED PERCEPTION OF THE SECTOR AMONGST GENERATIONS Y AND Z

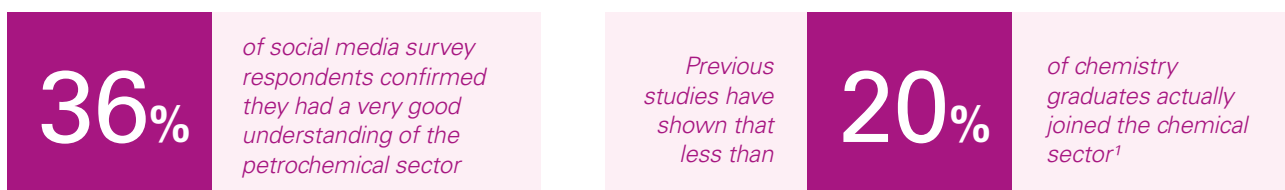
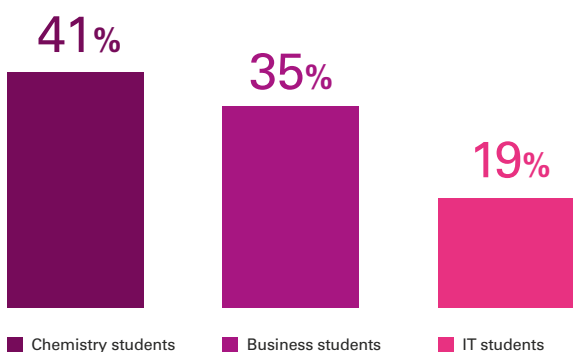


Figure 8: The Student social media survey respondents who confirm having a very good understanding of the petrochemical sector



The petrochemical industry seems to suffer from a limited understanding of the sector's activities amongst students, and even chemistry students have limited knowledge (Figure 8). This may be associated to a lack of promotion of its products and services. The necessity of improving external communications, including establishing partnerships with universities and research centres, was mentioned multiple times by interviewees.

Interviewees also estimate that the petrochemical industry lags behind other sectors (notably IT, Financial Services and Biotechnologies) in renewing and communicating a compelling employee value proposition.

As noted in the EPCA's 50 year anniversary history book², the petrochemical sector, particularly synthetic polymers, have been providing the means for making materials and equipment which have substantially improved levels of nutrition, access to drinkable water, quality of clothing, buildings and transportation, whilst also contributing to the reduction of energy use and emissions. The work of these companies has, and continues, therefore to contribute massively to raising the standard of living of the world's population.

¹ Source: Study conducted by Rainer Salzer, European Chemistry Thematic Network and TU Dresden, Germany 2015 (https://www.chemistryviews.org/details/ezine/7985181/First_European_Employment_Survey.html)

² Source: Petrochemicals & EPCA: A Passionate Journey (<https://epca.eu/petrochemical-association-about/History>)



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Despite these significant and fundamental contributions, our interviews highlighted that the petrochemical sector has room to improve its public image. It can currently be perceived as conservative or old fashioned and has notably been associated with the '3Ds': 'Dirty, Dangerous and Divorce'¹.

When Social media survey respondents were asked what word best described the Petrochemical industry:

- 'Innovation' was quoted 23 times, mostly by Chemistry students
- 'Pollution' was quoted 12 times

¹ Source: Petrochemical update, "Petrochemical workforce development: engaging Millennials in the Petrochemicals workforce" (2017) (https://www.pathfinderinc.com/sites/pathfinderinc.com/files/news-file-downloads/30OCT15_White_paper_Workforce%20Millennial.pdf)

“ Whether you are 20 or 60, and facing change and uncertainty, a strong corporate purpose can offer a more compelling reason than just a paycheck to devote long hours and energy to a company.¹ ”

EY research has shown that purpose is not the exclusive property of any one demographic cohort¹. Even if younger generations now joining the workforce may articulate their personal goals better, extended life-spans, less clearly defined career paths and greater pressures in the workplace are also probably leading more employees of all ages to question the value of their work.

Re-thinking the purpose-led element of their organisation was noted by a number of EPCA survey participants as being amongst the top ways to improve their brand attractiveness. In particular, it was considered to be more important than offering more competitive salaries.

Defining purpose: an aspirational reason for being that is grounded in humanity and inspires a call to action. By acting on this purpose, companies can create more value for their shareholders and society over the long term than by pursuing purely financial goals or a narrowly defined self-interest.¹



© FOSTYARD, Jacques - TOTAL

¹ The state of the debate on purpose in business, EY Beacon Institute, 2016
[http://www.ey.com/Publication/vwLUAssets/ey-the-state-of-the-debate-on-purpose-in-business/\\$FILE/ey-the-state-of-the-debate-on-purpose-in-business.pdf](http://www.ey.com/Publication/vwLUAssets/ey-the-state-of-the-debate-on-purpose-in-business/$FILE/ey-the-state-of-the-debate-on-purpose-in-business.pdf)

**CASE STUDY: TOTAL**

Strategic alignment with the Paris climate conference objectives

**OVERVIEW**

In 2015, Total seized the opportunity of the Paris climate conference to communicate its commitment to better energy and to emphasize the company's alignment with the conference's objective of keeping global warming below 2°C.

CHALLENGES

How to overcome a widespread perception that petrochemical companies are not sufficiently engaged in environmental protection? How to raise public knowledge of the petrochemicals' products and services added-value?

APPROACH

Total has aligned its business strategy with the 2°C ambition defined by the Paris climate conference. This has had direct impacts on products and services development and offerings (e.g. mobility & light-weight materials, bio-based solutions, circular economy, more gas and no coal).

Along with six global oil and gas companies, Total also sent an open letter to the United Nations to call for the introduction of carbon pricing mechanisms with the goal of reducing uncertainty

and promoting more economically efficient methods for reducing worldwide carbon emissions.

In addition, an ambition for the Refining & Chemicals Division was defined: "leading the way to clean and affordable fuels and polymers." This mantra was cascaded to each level of the organisation via working groups composed of representatives from all functions and all levels.

**CASE STUDY: BERTSCHI**

Working with incubators and universities to create tomorrow's logistics

**OVERVIEW**

Bertschi has forged strong links with local incubators and universities in order to co-build the logistics innovations of tomorrow. These initiatives are a powerful way of convincing students that exciting innovations can be developed within the sector and can help dispel any stereotypes they may have.

CHALLENGES

How to convince young students that a Petrochemical logistics company is innovative?

How best to onboard and enable new graduates to contribute to digital innovations?

APPROACH

Bertschi opened a new company location at the TECHNOPARK@ Aargau in Brugg and established a new software development team to define future solutions for the digitization of the Bertschi Group business model. This new team enabled the group to deepen its collaboration with a nearby University, facilitating collaboration and sharing between academic study, applied research and development and practice.

Additionally, the close proximity of the University has facilitated the recruitment of skilled workers.

Bertschi also supports a strong collaboration with its educational partners by encouraging some of its employees to undertake work-teach contracts. Those contracts enable employees to start career at Bertschi whilst teaching at school or university and also helps build the company's reputation amongst students.

4 - ORGANISATIONAL SHIFT

THE IMPERATIVE OF AN INNOVATIVE ORGANISATION...

In a rapidly changing world, establishing an environment that fosters innovation and agility is one of the keys to success. This was recognised in the EPCA member survey, with an environment that does not seem modern and/ or flexible enough being selected by the highest number of respondents when asked to define the top three factors contributing to a lack of attractiveness of the petrochemical industry amongst younger generations.

Despite organisational shift being recognised as a priority by survey respondents (Figure 9), interviewees acknowledged that the sector has implemented relatively few initiatives that will transform the industry.

The need to find new, disruptive business models was identified by the majority of interviewees as one of the top concerns in order to remain competitive. These new business models should seek to transform the sector, for instance by moving away from a traditional model of responding to industry based demands, to a proactive one, anticipating not only the needs of industry but also of end consumers themselves or evolving from a product based to a service orientated model. Disruptive models are also mentioned in a recent stakeholder consultation supporting Cefic's Mid-Century Strategy project. Interviewees expressed the need to establish these new business models - by means of internal innovation, acquisition of start-ups or alliances - ahead of their competitors.

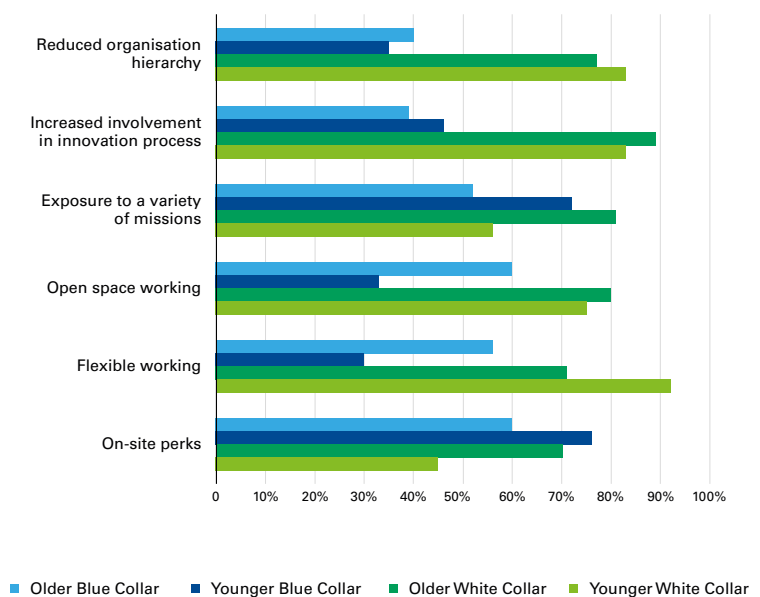
... WHICH IS AGILE ENOUGH TO MEET THE NEEDS OF ITS EMPLOYEES

When asked to identify what they consider to be the priorities per generation and per socio-economic category, respondents identified flexible working as an important expectation for young white collar workers (Figure 10). Despite some notable exceptions, the differences in priorities between ages appear to be less important than the differences between socio-professional category (white or blue collar).

Figure 9: EPCA member survey respondents ranked organisational shift as one of the top three issues the petrochemical industry is facing today



Figure 10: The top three expectations per socio-professional category and per generation as selected by the EPCA member survey respondents





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AGE DIVERSITY IS CONSIDERED ESSENTIAL AS WE TRANSITION TO THE WORKFORCE OF THE FUTURE...

The digital transformation (including automation, artificial intelligence and data analytics) as well as the evolving organisational models (including the rise of the gig economy) are challenging the traditional employer-employee model.

The benefits of an age inclusive and diverse workforce were recognized by both survey respondents and interviewees. Notably, survey respondents identified that a range of ages in the organisation will support them when facing the fast pace of the digitally transforming world and in identifying disruptive business models (Figure 11).

Figure 11:

When asked to identify the three main benefits of having an inclusive, age diverse, workforce, EPCA member survey respondents selected managing the fast pace of a digitally transforming world.



... YET A TRADITIONAL, RISK AVERSE CULTURE MAY HAMPER PROGRESS

Interviewees also note that a risk averse, engineering culture of scrutinizing data and dashboards before acting may prevent innovation and experimentation within the sector. There was also a broad consensus that member organisations have yet to seize the value offered by innovations such as big data, analytics and automation.



CASE STUDY: DOW

Employee Resource Groups that focus on age diversity



OVERVIEW

Since identifying inclusion and diversity as an essential element within its strategy, Dow has appointed Karen Carter as Chief Inclusion Officer for the group. Dow has also launched two new Employee Resource Groups (ERGs): RISE, focused on employees in the early stage of their career, and PRIME, focused on employees at the height of their professional career. These groups bring diverse backgrounds and perspectives to Dow.

CHALLENGES

How to define a clear career path for Generation X and the Baby Boomers?

How to integrate young talent into the current workplace structure?

How to meet the very different needs of generations within the workplace?

APPROACH

The RISE ERG aims to mentor and guide Dow employees who are at the early stages of their career, enabling them to navigate the organisation and support their development and growth. The group is aimed at those employees with eight years or less of experience and offers mentorship, career development, peer networking and community outreach activities. Dow also benefits

by gaining insights and perspectives from this group.

The PRIME ERG aims to support Dow employees who are over 50 years old, who are highly experienced and who are in the 'prime' of their careers. PRIME will foster networking and career opportunities, including facilitating communications across the generations, transforming technology skills, supporting life planning and helping with continual career growth.



CASE STUDY: SHELL

Moving to an agile way of working



OVERVIEW

Given the accelerated pace of change in the fields of technology and ways of working, Shell needed more agility in order to implement innovation initiatives and disruptive business models. They also faced a deep rooted culture of scrutinizing data before acting, which prevented rapid innovation and experimentation (Minimum Viable Product).

CHALLENGES

How to ensure older generations are comfortable with rapidly evolving technology?

How to ensure all generations work together in a technology-intensive work environment?

APPROACH

Shell Chemicals is taking first steps in the field of age inclusion and fostering an innovative environment. For instance, one initiative involves a new approach to project development where an agile way of working has replaced the traditional approach. To achieve this, Shell has formed a small, co-located and dedicated cross discipline team that is not linked

to any function and that has a regular weekly cadence of 'plan, do and adjust'. This team has the freedom to create a product vision based on customer interviews instead of based on a top down directive. Frequent small, focused steering committees provide the opportunity to identify and integrate learnings.

5 - KNOWLEDGE TRANSFER

The age pyramid data (Figure 1, page 8) demonstrates how the workforce in Europe is ageing, a trend which is reflected amongst EPCA members (Figure 2, page 9). With increasing retirement departures likely over the short to medium term, organisations face losing experienced resources with skills and knowledge critical to their business. It is unsurprising, therefore, that both survey and interview responses acknowledge that strengthening knowledge transfer and improving the collaboration between generations are top generation issues faced by the sector today.

A slight majority of overall survey respondents report the loss of skills through retirement as being a concern, however we note that the numbers are significantly higher amongst manufacturers and customers of the petrochemical industry (Figure 12).

Within this context, we note that EPCA members have already established a significant number of initiatives, specifically around mentoring and reverse mentoring (Figure 13). Interviewees noted the benefit this can have for older generations who can be supported in adopting new ways of working (for instance in an increasingly digital environment) and for the younger generations who benefit from their mentors' experience.

Interviewees also noted that relationships between generations are usually quite smooth. Certain marginal tensions were noted, specifically when it comes to their personal lives.

Figure 12:

The percentage of EPCA member survey respondents who confirm that they face a loss of key expertise as older generations depart.

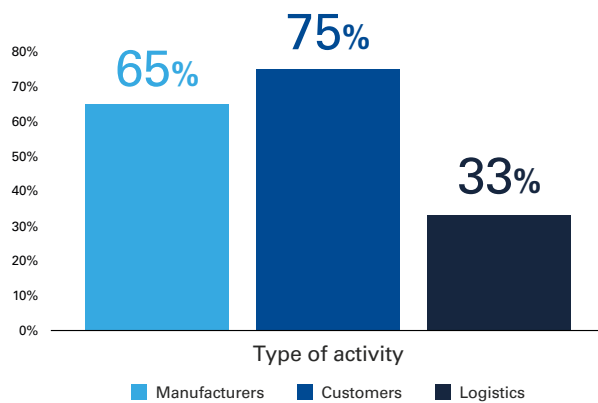
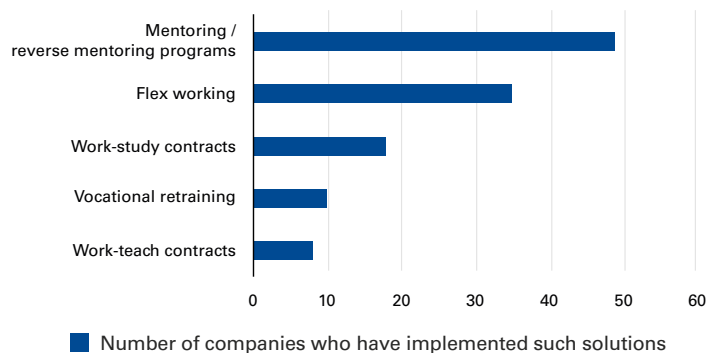


Figure 13:

The EPCA member survey respondents outline the age inclusion and diversity initiatives that they are already implementing



“ Young people tend to be more vocal, expressing their concerns about their health at work and work-life balance... while older generations are more used to ‘grin and bear it’ ”
(EPCA interviewee)



© Repsol

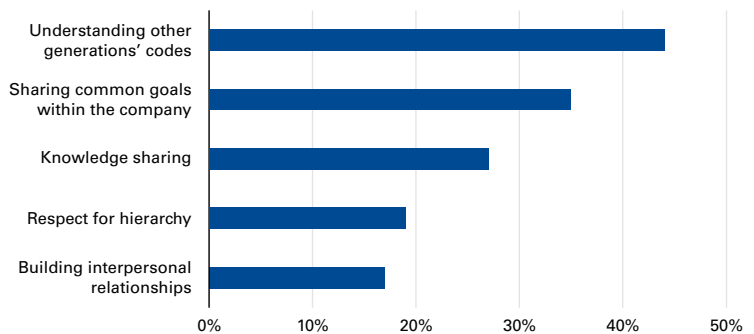
Despite the benefits of inter-generational knowledge sharing, a notable percentage of respondents identified it as an area that can be challenging (Figure 14).

Interviewees also raised concerns that their current collaboration tools (for instance knowledge exchanges or collaboration platforms), may not be sufficient to foster strong collaboration and an effective exchange of ideas.

Effective knowledge transfer must remain therefore at the forefront of the age diversity agenda, and embrace more innovative ways of ensuring knowledge capture and transition.

Figure 14:

The EPCA member survey respondents identified areas in which they have encountered the most difficulties when working with another generation





CASE STUDY: REPSOL

Bridging the generation gap through mentorship



OVERVIEW

With an increasing number of workers approaching retirement age and several key positions likely to be impacted, Repsol established a structured process to ensure knowledge transfer and retention.

CHALLENGES

How to ensure the identification of critical knowledge to be transferred?
How to manage the loss of expertise and on-the-job knowledge to minimize the impact on the organizational performance?

APPROACH

Repsol launched a structured mentoring program to support knowledge transfer from a significant number of experienced employees. The program includes technical knowledge but also covers a broader range of topics related to business planning, safety management and client intelligence. It also includes activities to support the successors in building their own internal and external network.

The program brings benefits to both those sharing their experiences and those being mentored. Seasoned employees appreciate the opportunity to be recognized for their contributions by sharing their perspective with the next generation. Those receiving mentorship appreciate the guidance, encouragement and support of a trusted and experienced mentor.



CASE STUDY: BASF

Initiatives that include inter-generational knowledge transfer



OVERVIEW

BASF leadership was quick to anticipate the implications of an ageing workforce and a shrinking talent pool. A number of initiatives were established in order to address this issue.

CHALLENGES

How to retain knowledge and expertise within the organisation?
How to ensure younger employees gain the expertise they need?

How to identify and leverage innovation ideas?

APPROACH

Initiatives established by BASF include:

- Demographic analyses to make each demographic situation transparent for leaders
- Training called "Leadership in times of demographic change" as part of leadership programs

- Knowledge transfer programs and tools in succession management
- Incubation/Start-up programs to identify and develop ideas likely to disrupt the current business model, to engage the younger generation of professionals
- Mentoring programs involving the senior manager generations to share knowledge and enable reverse mentoring opportunities especially in digital topics

AGE INCLUSION AND DIVERSITY: TAKING ADVANTAGE OF THE OPPORTUNITIES

IS YOUR ORGANISATION REAPING THE BENEFITS OF A DIVERSE RANGE OF GENERATIONS WITHIN YOUR WORKFORCE?

Age inclusion and diversity may represent a challenge for the petrochemical industry but, if appropriately addressed, also represents a significant opportunity for your organisation to fully leverage the available talent, to ensure career satisfaction across generations and to renew your employee value proposition.

Consider the following questions in order to establish how you could better address the challenges and take advantage of the opportunities presented by a diverse range of generations within your workforce:

- ▶ What activities has your organisation put in place in order to engage, develop and retain several generations under one roof?
- ▶ Has your organisation identified the skills and expertise needed for tomorrow? And is there a plan in place to develop or acquire these?
- ▶ How could your organisation enhance and better articulate its purpose?
- ▶ How could your organisation improve its recruitment mechanisms aimed specifically towards Generations Y and Z?
- ▶ How could your organisation establish a work environment that better fosters innovation and agility?
- ▶ What initiatives has your organisation put in place to facilitate inter-generational collaboration and knowledge transfer?



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Based in Brussels, EPCA is the **primary European Business Network** for the global petrochemical business community consisting of chemical producers, their suppliers, customers and service providers. It operates for and through more than 700-member companies from 54 different countries that represent an aggregate turnover of over €4.7 trillion and employing over 6.2 million people. EPCA **organises conferences and events** in Europe offering members all over the world the opportunity to meet industry leaders and selected external stakeholders and stay abreast of international market developments as well as technological and societal trends. EPCA also **supports** members on **specific topics** that underpin the sustainable development of the global petrochemical industry by developing knowledge via research projects with external partners (e.g. academic institutions and consultancies).

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