Interview

Change or stagnation – building for tomorrow

Laurence Delplace is a graduate engineer from EPFL and has been working in underground construction since 2008. After completing her studies, she gained extensive experience in mechanical tunnel construction at Herrenknecht in an international environment. She then moved to Amberg Engineering, where she progressed from project engineer to project and regional manager and finally to the executive board.She has been CEO of the company since 2024 and is responsible for strategic direction, service development, the innovation agenda and the quality of engineering solutions. In this role, she shapes they are responsible for the technological development and positioning of the company in the national and international infrastructure environment.

What does "Building for tomorrow" – in the context of innovation, sustainability and social responsibility?

For me, "building for tomorrow" means taking responsibility beyond the completion of a project. We plan and build infrastructure that will last for decades, often even generations. This obliges us to think ahead, both technologically and ecologically and socially.

It is not just a question of building more efficiently or cost-effectively, but of developing solutions that are resilient, adaptive and sustainable. "Building for tomorrow" means considering the entire life cycle – from planning and construction to operation, reuse and demolition.

Innovation plays a central role in this: digital twins, artificial intelligence, low-carbon materials, automated construction processes – all these developments open up new possibilities. But they also challenge us to renew our work culture, our decision-making and sometimes even our thought patterns.

Where do you currently see more progress and where do you see more stagnation in your everyday work?

I definitely see change in digitalisation and in our teams' willingness to use new methods. We are seeing a young generation of engineers who work with data, algorithms and simulations as a matter of course and who actively ask how we can make projects more intelligent and sustainable.

On the other hand, I see stagnation in structures that have developed over time – for example, in fragmented processes, silo-like responsibilities or contracts that hinder rather than promote cooperation, innovation and even efficiency. But even where uncertainty outweighs courage, change comes to a standstill.

Change begins with attitude – those who build for tomorrow must be prepared to make bold decisions today.

In your view, how can the necessary change in the industry be shaped in concrete terms?

Change begins with attitude – with a willingness to allow new approaches and manage risks intelligently. In concrete terms, this means:

- **Early collaboration between planning, execution and operation, rather than sequential processes.** Planners often work on the basis of assumptions, while those responsible for execution only become involved much later in the process, when key decisions have already been made. This leads to several problems: loss of knowledge, untapped potential for optimisation, high potential for conflict and the creation of silos in terms of responsibility and communication.

  This problem is particularly evident in underground mining – a discipline fraught with uncertainty. Geology, construction methods, time pressure and safety actually require early, close cooperation. And yet traditional models prevent precisely that.

  In some countries – for example in France – we see design & build models or early contractor involvement, which enable precisely this: contractors contribute their

expertise at an early stage, risks are assessed jointly, and optimisations do not only arise at the construction site, but already in the concept phase.

- **Contract models that reward cooperation instead of penalising mistakes**. In Switzerland, we very often work with engineering contracts billed on a time and material basis or work contracts with

  Uniform prices, which at first glance appear flexible and low-risk, but in practice rarely lead to genuine efficiency or innovation. These models do not necessarily reward those who work better, faster or smarter – on the contrary, they can lead to a lack of incentive to seek optimisations or new approaches in the first place.

  At the same time, the traditional flat-rate/forfait model often creates a culture in which risks are hidden rather than openly shared. Each party protects itself instead of working together to find the best solution.

  Other countries show that there is another way: cooperative models focus on early integration, joint goal definition and transparent risk management. There, innovations are not seen as a threat, but as a shared benefit – because everyone involved participates in the same success.

  Such models promote early involvement of construction companies and operators, joint risk assessments, cost certainty through shared responsibility, and greater courage to try out new solutions.

  For Switzerland, this would be a cultural shift – but a necessary one if we want to move towards efficiency, innovation and sustainable infrastructure.

- **Courage to innovate**, even if it means more effort initially. Many building owners today demand innovation – whether in low-carbon construction, digital twins or mechanical tunnelling. But innovation requires not only a desire, but also an environment that allows for new developments, enables testing and accepts iterative improvement processes.

- **Focus on the life cycle**, not just the construction phase. The decisive factor is whether a solution is robust, energy-efficient and low-maintenance in the long term.

> Breaking new ground does not mean taking risks blindly, but managing risks consciously and professionally – and not only acting when we have no other choice.

energy-efficient and low-maintenance
This requires multidisciplinary collaboration and evaluation models that take more than just the initial construction costs into account.

- **An open, learning-oriented culture** in which knowledge is shared and mistakes are analysed. This means, for example, lessons learned that are actually used across projects, or digital tools that feed insights from operation and monitoring back into planning.

Our industry is risk-averse by definition – we build safety-critical infrastructure. But that is precisely why we must learn to integrate innovations in a controlled manner, promote pilot projects and test new processes in small, manageable steps. Embarking on new ventures does not mean taking risks blindly, but managing risks consciously and professionally – and not waiting to act until we have no other choice.

Interfaces between planners and executors

In your experience, are there any projects where open cooperation between planning and execution has been particularly successful – and what can we learn from them?

A recent example from our experience clearly demonstrates how effective genuine cooperation between planning, execution and the customer can be. Around a year ago, we entered into a partnership with Implenia to fundamentally revamp the inspection and rehabilitation of infrastructure. The idea was to consciously combine the expertise of planners and contractors while at the same time taking the needs of local communities much more into account. In this way, we wanted to develop a new type of service that is closer to the reality of our customers and understands innovation not only as a technical issue, but also as an organisational one.

At the outset, we interviewed several municipalities and conducted workshops to understand their actual pain points: lack of overview of the condition of their buildings, uncertainties in prioritising measures, high administrative costs and often limited internal resources. This close cooperation with the municipalities was crucial because it showed us where the real needs lie and where digital solutions can create concrete added value.

This joint analysis has resulted in a pilot project that completely digitises and consistently structures the entire process – from inspection and assessment to rehabilitation. Data is digitally recorded on site, centrally evaluated and used as the basis for clear, prioritised measures that are both technically sound and practically feasible. The implementation is considered from the outset so that there are no interface breaks.

This project has made it clear to us how much faster and more effectively innovation occurs when all parties involved – planners, implementers and customers – sit down together at the same table. Cooperation creates speed, it creates trust, and it enables solutions that not only work on paper, but also meet the real needs of communities. Above all, it shows that real change succeeds where traditional role models are overcome and where we have the courage to develop new models together instead of remaining in familiar silos.

Switzerland has an exceptionally high culture of quality and safety. Processes are structured, standards are very detailed, and decisions are often made carefully and deliberately.

Skilled workers and young talent

The shortage of skilled workers affects the entire construction and engineering industry. How strongly do you feel this pressure at Amberg Engineering – and in which areas in particular?

We are feeling the shortage of skilled workers very keenly – on several levels. Highly specialised profiles are particularly challenging: geotechnical engineering, numerical modelling, mechanical tunnel construction, BIM/digital engineering and experienced project managers. This combination of in-depth technical understanding and project experience is in high demand today, not only in Switzerland but worldwide.

The dynamics have also changed: in the past, companies selected talent; today, talent selects the company. This makes positioning, culture and development opportunities more crucial than ever.

What strategies do you use to attract and retain talent, especially in light of increasing competition for qualified specialists? We rely on a combination of clear development paths, attractive projects and a corporate culture that offers freedom to take responsibility. People don't just want to work, they want to shape things.

Young talents in particular want to have a visible impact. That's why we give them responsibility early on – with support, of course – and enable them to participate in challenging projects. The opportunity to do real and creative engineering work in a team, rather than just performing clearly defined routine tasks, is a strong argument in favour of Amberg.

However, we try to address talented individuals not only when they start their careers, but already during their studies: through teaching activities, guest lectures, the Supervision of final theses or through internships. This allows students to get to know our underground world at an early stage, often resulting in long-term success stories.

Our culture is just as important: we encourage initiative, transparency and diversity. This means flexible working models, genuine cooperation instead of hierarchical thinking, and leadership that listens and creates space for development. Last but not least, it is the human character of our company that appeals to many young people: short communication channels, open doors, genuine appreciation. The younger generation doesn't just want to be part of a process – they want to actively shape that process. At Amberg, they get exactly that space.

What role does corporate culture play in getting young people excited about the construction industry of tomorrow?

It plays a decisive role. Technical expertise is essential, but it only unfolds its full potential in conjunction with a vibrant corporate culture.

In my view, an inspiring culture means:

- Courage instead of a culture of fear: analyse mistakes, don't hide them.
- Collaboration instead of silos: engineers need freedom to think in an interdisciplinary way.
- More meaning, less routine: It is important for young people to understand why their work is relevant.

Tomorrow's construction industry is about more than building plans and calculations. It's about climate protection, safety, mobility, energy and resilience. If we make this significance visible, it will attract talented individuals who want to make a difference.

And finally, diversity – especially more women in technology – is not a "nice to have", but rather a driver of innovation. Teams that bring different perspectives to the table make better decisions and develop more creative solutions. Our experience shows that when the culture is open and supportive, talent comes – and stays.

International vs. Switzerland

Amberg Engineering operates worldwide. How does the Swiss construction and planning culture differ from that abroad?

Switzerland has an exceptionally high culture of quality and safety. Processes are structured, standards are very detailed, and decisions are often made carefully and deliberately. This leads to stable results, but sometimes also to slower progress and less courage to try new approaches.

Abroad – and here I am thinking of countries such as France or Scandinavia – I often encounter a much greater willingness to take risks and greater flexibility in processes. There, work is more often done on an iterative basis, decisions are made more quickly, and innovation cycles are shorter. The approach to uncertainty – for example, in underground mining – is also sometimes more pragmatic and more focused on joint risk management.

Both approaches have enormous strengths. The challenge is to combine the best of both worlds.

Where does Switzerland stand in international comparison – is it on the move or at a standstill?

I see Switzerland in an intermediate position: we are outstanding in terms of technology and engineering, for example in tunnel construction, materials technology, measurement technology and science.

At the same time, initial projects based on alliance or partnership models show that things are also changing in terms of project structures and contract models. In my view, there is still potential here to apply these approaches more broadly and develop them further.

A large proportion of projects are handled via engineering contracts billed on a time and materials basis rather than on a cost-plus basis, works contracts with unit prices, or rigid separations between planners and contractors. This hinders innovation and prevents new methods or materials from being integrated quickly.

At the same time, however, there is a growing willingness to embrace change: building owners are beginning to explicitly demand innovation, and issues such as sustainability and carbon footprints are creating new pressure to plan and build differently. We are therefore at a turning point – the direction we take depends on our courage.

Which international approaches or best practices do you find particularly inspiring for advancing "building for tomorrow" and where do you see Switzerland's strengths?

There are several approaches abroad that I find very inspiring:

Design & Build
In France, Australia and the United Kingdom, as an established means of utilising execution expertise at an early stage and opening up scope for optimisation.

Early Contractor Involvement (ECI)
Particularly common in the United Kingdom, the Netherlands and Australia, this approach is used to address risks earlier and make planning more robust.

Alliance models
Many years of experience in Australia, New Zealand and Scandinavia, with growing interest and initial applications also in Switzerland.

Strong focus on CO2-reduction
This is particularly evident in Scandinavia and the Netherlands, where sustainability is systematically integrated into planning, procurement and execution.

Digital consistency
Particularly pronounced in Asia and North America, with a focus on end-to-end data chains across planning, construction and operation.

These best practices show that innovation arises where structures allow it – and where courage is rewarded.

Switzerland has strengths that are recognised worldwide:

- Highest engineering quality – Swiss solutions work, are well thought-out and durable.
- Safety culture – this is an invaluable advantage, especially in underground construction.
- Precise planning and careful execution that can stabilise large-scale international projects.
- Excellent science and education at universities, high level of expertise in engineering firms.
- Efficient risk management that enables controlled implementation even in complex projects.

These strengths make Swiss engineering highly sought-after worldwide – and they form an excellent basis for integrating bolder models and innovations.

Our potential lies precisely in this combination: Swiss quality + international agility.

STEM professionals and women in engineering and construction

The shortage of STEM professionals – especially women – is a recurring theme. How do you perceive this situation in your environment?

The shortage of skilled workers has long been noticeable in technical professions, but the imbalance is particularly evident among women. In many areas – especially underground mining, geotechnical engineering and mechanical tunnelling – women continue to be severely underrepresented.

I often find that women are very interested and talented, but they lack early access, visibility of role models or sometimes simply the encouragement to enter a traditionally male-dominated environment. At the same time, I see that teams with women are more diverse, communicative and innovative. So it's not a "diversity issue", but a performance and future issue for the entire industry.

And finally, respectful, safe working environments are needed. That sounds obvious, but it is not the case everywhere. Whether in the office or on the construction site, people need to feel valued and respected.

In your opinion, what is needed to attract more women to technical professions – and offer them long-term development opportunities? I believe it requires a combination of early inspiration, structural support and a corporate culture that puts this into practice.It is crucial to expose girls and young women to technology at an early age – not just at university, but much earlier. Internships, school visits, workshops, mentoring or simply clear communication about what female engineers actually do create visibility and spark interest. It is just as important to have role models: you can only become what you see. Women in leadership and technical positions must therefore be visible – in lectures, the media, committees and projects – because this creates identification and courage.

In order to retain women in the workforce in the long term, structures are also needed that support a good work-life balance: flexible working models, hybrid forms of collaboration, shared responsibilities and a culture that does not view family and career as mutually exclusive. Another issue concerns leadership: women often underestimate their skills, while men tend to overestimate theirs. That is why we need managers who recognise potential, encourage women and consciously transfer responsibility to them – sometimes even before they themselves believe they are ready. And finally, we need respectful, safe working environments. That sounds obvious, but it is not always the case. Women need to feel just as respected on construction sites as they do in the office – and that is ultimately a question of attitude and leadership culture.

What experiences or role models have shaped you personally on your journey? I was greatly influenced by people who gave me responsibility at an early stage – even in situations where I myself was not sure whether I was ready. This kind of trust helped me grow and showed me how important it is to give young talent opportunities.

I have also been inspired by international role models – both women and men – who have shown that competence, leadership and empathy are not mutually exclusive, but rather reinforce each other. In tunnel construction in particular, I have learned that resilience, humour and clarity are crucial when dealing with risks – regardless of gender.

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These experiences motivate me to be a role model myself, not through perfection, but through authenticity and attitude. If I can encourage young women to pursue a career in engineering, then that is one of the most valuable aspects of my work.

Outlook for the future

When you think about the future, what developments will have the greatest impact on planning and construction over the next ten years?
I am convinced that three developments will have a profound impact on our work:

The complete digitisation of construction: digital twins, automated data flows, AI-supported planning and quality assurance are becoming standard. We will no longer just plan buildings, but digital models that are maintained and used throughout their entire life cycle.

The transition to low-carbon and resource-efficient construction: More than ever before, the industry will have to think carefully about materials, processes and energy consumption. Reducing cement use, alternative reinforcement, reuse and recyclable solutions are no longer "innovative" but necessary.

Resilience as a new guiding principle: Infrastructure must not only function, but also be resistant to natural events, climate change, cyber risks and high demands. This requires multidisciplinary thinking and flexibility in design.

Where would you like to see more change in the industry – and where might a conscious standstill in the sense of reflection or quality be useful?

Change
Very clear in our structures: the courage to embrace new contract models, faster decision-making, and a focus on the future.
decision-making processes, more risk sharing and a stronger understanding that innovation is not free, but creates enormous added value in the long term.

I would also like to see more progress in the way we handle data: we generate a great deal of A lot of information, but they still use far too little of it for optimisation, forecasts or lifecycle decisions. Another important aspect here is the sharing of data and experience – across project phases, organisations and projects.

Stagnation
When it comes to quality standards. These are fundamental to our work and should not be sacrificed lightly. Standing still makes sense when it reminds us of what makes us strong: careful planning, robust solutions and a culture that never compromises on safety.

Standing still can also mean consciously pausing before automating or digitising processes and ensuring that they are truly understood.

Laurence Delplace
CEO, Amberg Engineering

Since graduating from EPFL in 2008, I have been working in the fascinating field of underground mining. My career began in Germany at Herrenknecht, a leading global manufacturer of tunnel boring machines. There, I learned what it means to work in a thoroughly international environment: different cultures, multidisciplinary teams of experts and complex technical challenges. At the same time, I developed a deep technical understanding of mechanical tunnel construction – a technology that is as impressive as it is demanding.

A few years later, I moved to Amberg Engineering, a Swiss engineering firm that is entirely dedicated to underground construction. Here, I grew step by step: first as a project engineer, then as a project manager and finally as regional manager for France/Belgium. In 2024, I was given the opportunity to take over as managing director. In my role as CEO, I am now responsible for strategic direction, the further development of our services, our innovation agenda and the quality of our engineering solutions.

At the same time, I am heavily involved in the international tunnelling community. I chair Working Group 14 of the ITA, which is dedicated to mechanical tunnelling, am part of the organising committee for the World Tunnel Congress 2027 in Antwerp, and was recently included in Belgium's 40 Under 40 programme. These commitments are important to me because they broaden my horizons, promote exchange with international leaders and help to raise the profile of our industry – an industry that may work underground, but is of central importance to society.

What role do new beginnings and periods of stagnation play in your career and personal development?

Change is a recurring theme in my life new countries, new tasks, new responsibilities. I have rarely stayed in my comfort zone for long. I have usually only recognised stagnation in retrospect – as a moment when it becomes clear that change is needed. It is precisely this tension between stability and renewal that drives me today: preserving what is strong and resolutely transforming what needs to be changed. For me, new beginnings are less a state of being than an attitude: the willingness to see opportunities, to endure uncertainty and to make courageous decisions.

Is there anything you would like to share with the conference participants regarding "Change or stagnation – building for tomorrow" and your experiences?

I would like to encourage participants to understand change not only as technological progress, but also as an attitude. Change means questioning your own thought patterns, taking responsibility and showing courage – even when the path is not always clear.

Our industry is hugely important to society. We build infrastructure that lasts for generations. That is why we should not only rely on tried-and-tested methods, but also consciously embrace new ones: new methods, new materials, new forms of cooperation.

At the same time, we must recognise that change is not the opposite of stability. On the contrary: the best innovations arise where there is stable ground and a clear purpose. If we combine both – the strength of tradition and the courage to change – then we are truly building for tomorrow.

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