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Editorial

The headwinds faced by the global (bio)chemical industry: structural shifts, economic uncertainty, energy price volatility and intensifying regulatory pressure have reshaped the landscape in which all actors—large industrial groups, SMEs, and research centres alike—must operate. Despite the turbulence, our teams have demonstrated resilience, agility, and an unwavering dedication to excellence in executing our mission to support industry through science, technology, and responsible progress.

This year, we strengthened our strategic positioning through a landmark partnership with Sirris, Belgium's leading centre for technological innovation. This collaboration brings together complementary expertise - Certech's deep knowledge in chemistry, environmental and materials technologies - with Sirris's advanced capabilities in industrial engineering and digital transformation. Together, we are building a powerful platform to help companies navigate the twin transitions of sustainability and competitiveness. This partnership is more than a shared project pipeline, it is a shared vision for the future of Belgian and European industry.

Our commitment to responsible innovation was further validated by the EcoVadis Silver certification grant, a recognition that underscores the maturity of our sustainability practices. Achieving this certification reflects the work invested in environmental stewardship, ethical governance, and social responsibility. It also signals to our partners and clients that Certech is not only a provider of technological solutions, but a trusted ally in their own sustainability journeys.

Looking ahead, the demand for more efficient and cleaner processes, circular materials, and low-carbon technologies is accelerating. Certech is ready to meet these expectations with scientific rigor, and a clear focus on impact. Our teams are actively developing solutions that help industry reduce emissions, optimize resources, and transition toward more sustainable value chains.

I want to express my gratitude to our partners, clients, and stakeholders for their trust, and to our teams for their commitment and creativity. Together, we will continue to transform challenges into opportunities and contribute to a more resilient, innovative, and sustainable industrial ecosystem.

Catherine Henneuse
Deputy General Manager

1. FIELDS OF ACTIVITY AND STRATEGY

Certech is a research and development partner and supplier of analytical and technological services for companies involved with activities related to (bio)-chemistry: life sciences, environment and energy; automotive, polymers.
Our mission is to provide sustainable innovative solutions to improve or develop products and processes to meet industrial and societal needs.

The research & development strategy is based on the synergies of three main themes, namely: polymer materials technology, (bio)chemistry & industrial processes, environment, all three being supported by an analytical & technological services platform.

ENVIRONMENT

Our industry partners benefit from Certech's forty five years of experience in the field of gas emission, process optimization and improved materials with reduced environmental impact. Research and Development activities include air quality, health and safety, energy, and circular economy.
Certech is approved for the atmospheric pollution control (odor, volatile organic compounds) by the Walloon region and is an active member of 11 working groups over different Technical Committees from ISO, CEN, Afnor.

Air Quality, Health & Safety

Atmospheric pollution and ambient air

In the field of outdoor environment, sampling, on-line measurements, and analysis (odor and gaseous effluents) are offered. Environmental impact is evaluated via simulations of atmospheric dispersion and neighbourhood direct assessment. Remediation pilot equipment based on catalysis or scrubbing is also available. A mobile laboratory is dedicated to carry out environmental diagnostics. It is equipped with several sampling equipment and measuring devices for the analysis of atmospheric emissions and ambient air.

Occupational hygiene and indoor air quality

Key expertise in workplace and indoor air assessment includes sampling and analysis of dusts, aerosols, microbiological and chemical components, noise, measurement of nanoparticles and biological agents, determination of organic vapours, evaluation of personal protective equipment (PPE), probability assessment of workstation exposure and characterization of ATEX (ATmosphere EXplosive) atmosphere, generation of controlled atmosphere and sensors efficiency evaluation.

Energy and circular economy

The European Green Deal and the accelerating use of renewable energy sources driven by the need to mitigate the effects of climate change has significantly increased market needs in the field of energy saving, renewable energy production, storage, distribution, and end-use.
Driven by the concepts of Safe and Sustainable by Design (SSbD), expertise in chemistry for renewable energy applications has been built up by working on efficient and safer materials, energy production and storage, chemical storage, sustainable and innovative process.

(BIO)CHEMISTRY AND INDUSTRIAL PROCESSES

In the current era of globalization and capital mobility, European chemical industry must accelerate its pace of innovation to remain in a leading position. Capitalizing on its core expertise in chemistry, process intensification and continuous flow chemistry, Certech aims to develop factory of the future and smart (bio)-chemistry platforms adapted to the main industrial chemical sectors: Specialty Chemicals and Life Sciences

Factory of the Future - Intensified/continuous processes

Process Intensification is based on the use of small volume reactors, continuous processes, high temperatures and pressures, better heat, and mass transfer. It leads to improved quality products, increasing yields, reduction of investment costs, lower energy consumption and reduced environmental and safety risks. It is a multidisciplinary approach to improve process technology and the underlying chemistry at the same time.

Micro/Mesofluidic reactors

Multipurpose flow reactors enabling continuous (bio)-chemical/biotech processes are available. Main features of this type of equipment are the outstanding mixing and heat exchange, low internal volume with high residence time allowing the use of low quantities of reactants with an output of 5 kg a day.
Pilot reactors are also available to perform synthesis under strictly controlled experimental conditions in gas, liquid phase but also slurries. Different applications are covered including fine chemicals, medicinal chemistry, biotechnology, green chemistry, and polymer chemistry.

Chemical recycling (Plastic-to-Liquid, Plastic-to-Gas)

Chemical recycling is a process which either breaks down or selectively dissolve plastic waste into their chemical constituents and converts them into useful products like basic chemicals, new polymers/oligomers, or specialty chemicals. Specific skills and equipment able to reach high pressures and temperatures are used in the field of recycling and valorisation of plastic waste materials in a continuous way.
Certech also has a strong expertise in the field of catalytic pyrolysis for waste to hydrocarbons transformation, with potential valorisation for the synthesis of new polymers.

POLYMER MATERIALS TECHNOLOGY

Certech expertise in polymer and composite materials ranges from analysis and development (formulation, blending...) to transformation and processing, thereby offering a broad and diversified technical and scientific support to partners and customers looking for a broad expertise in the field of material science.
To address environmental concerns which have become a major topic for industry these last years, Certech has acquired a strong expertise in materials and processes with reduced environmental impact, from biobased materials to the mechanical and chemical recycling processes for plastics and composites. This expertise also includes the development of lightweight materials as well as odor and emissions from materials

Odors and emissions from materials

Certech offers R&D support, testing and consulting in the field of materials interaction with the environment. New requirements from end-users (e.g., low odor and emission products, non-intentionally added substances NIAS), new directives and regulations (e.g. new car manufacturers standards, migration concerns, health, and environmental regulations) have a clear influence on product market acceptance and require reliable laboratory testing conditions. By combining its skills in air sampling and analysis with its expertise in materials technology, Certech has developed leading edge know-how in assessing and managing gaseous emissions produced by materials. This expertise includes emissions from transportation or building materials, migration phenomena and organoleptic contamination of packaging materials. Certech works in partnership with suppliers, manufacturers, and end-users in order to achieve materials emission levels that are complying with the market needs. Remediation is also proposed and can involve formulation of less odorous and less emissive products and/or using innovative processes (dry air degassing, devolatilisation and stripping). Certech has been selected as the Belgian expert for the drafting of the European Standard EN13725 “Air quality – Determination of odor concentration by dynamic olfactometry”, EN16846-1 “Photocatalysis”, ISO 16000 standards “Indoor air” and ISO 12219 “Interior air of road vehicles”. Performance evaluations of air purification units are also offered.

(Bio-based) Polymers and composites

Certech develops materials and their processing conditions to respond to the most stringent market needs. The intrinsic properties, the cost of raw materials and additives, their origin, processing and manufacturing conditions, health and environmental impact, recyclability are key parameters considered for the development of new materials. Know-how has been acquired by Certech in the formulation and modification of petroleum-based and bio-based thermosets and thermoplastic materials like wood plastic composites, bio-based composites, barrier additives for packaging, functional additives, and bio-polymer formulations. Preparation of hybrid materials (sol gel, specialty and multifunctional coatings, zeolites chemistry, cellular materials) is also one of the key competences.
Certech has also acquired expertise in the field of material substitution for the plastics and composites sectors, aiming at replacing raw materials which are raising potential health or sustainability issues.

Mechanical recycling (Plastic-to-Plastic)

Recycling of materials is one of the most challenging issues from a sustainability point of view. Certech can provide sorting and separation services and performs the processing of solid wastes into new materials. Assistance in material identification, processing, formulation, and evaluation of recycled materials performance is also provided. Odors and emissions associated with recycled polymers can also be managed (sampling, characterisation, and remediation).

Lightweight materials: development of polymer foams

Today, environmental concerns play an increasingly central part in all the sectors of activity (building, transport, energy, …) and there is an increasing need for more performing and lighter materials. For that purpose, foamed polymers are very interesting materials thanks to their acoustic and thermal insulation properties, lower density, mechanical properties, and competitive price. Foamed polymers are found virtually everywhere in a wide variety of applications such as packaging, cushioning of furniture, insulation, structural parts in automotive …
In order to deliver R&D support to customers and partners, Certech has implemented several activities linked to foaming: physical and chemical foaming, development and optimization of formulations, development and optimization of processes.

ANALYTICAL & TECHNOLOGICAL SERVICES

Industry partners benefit from the support of a wide range of advanced characterization tools. The analytical equipment covers the physical, chemical but also sensorial properties determination:

- Physical analysis: mechanical, rheological, thermal, dynamic mechanical, morphological, barrier properties, molecular weight distribution, polymer degree of branching.
- Chemical analysis: chemical composition determination of resins and polymers, additives, fillers, qualitative and quantitative determination of complex mixtures, traces analysis, non-intentionally added substances (NIAS), reverse engineering.
- Sensorial analysis: odor and organoleptic properties.

A 1000 m^2 application hall is available with highly flexible equipment designed for the simulation of industrial processes:

- Polymer materials: drying, mixing, pelletizing, extrusion, foaming, injection moulding, resin transfer moulding (RTM), compounding, 3D line printing. The available output ranges from 5g to a few tens kg/h of processed materials.
- Process intensification: versatile continuous reactors adaptable to project needs, 20 litres continuous reactor for catalytic pyrolysis, autoclaves from 75 to 1000 ml for high temperature and high-pressure chemical treatment, spray-drying.

2. R&D COLLABORATIVE PROJECTS

In 2025, Certech was involved, either as lead partner or partner, in 14 collaborative projects, 1 of which was kicked off during the year. The funding sources were the European Regional Development Fund (ERDF, "Just Transition Fund" and "Interreg VI France-Wallonie-Vlaanderen"), Walloon Region (Marshall Plan & Win4Collective), Federal Government (Energy Transition Fund) and the European Commission Horizon Europe framework program.

ONGOING PROJECTS

Project	Description	Partnership	Funding
H_2.be	Easy hydrogen storage with advanced, innovative, safe and cost-effective materials	Certech, UCLouvain, industrial partner	Energy Transition Fund (Federal Government)
Elast2Sustain	Sustainable thermoplastic elastomers (TPEs) from bio-based or recycled materials	Centexbel, Certech, URCA, ULille, KULeuven, EuraMaterials	Interreg VI FWVl supported by the ERDF & Wallonia
OBIWAN	From organic waste to chemical building blocks via biogas: an integrated (bio) chemical carbon cycle including CO2 recovery	UGent, CNRS, Certech, UTC	Interreg VI FWVl supported by the ERDF & Wallonia
SFP Liner	Development of a flexible class A structuring liner-resin system for metal pipes network distribution (high temperature application and drinking water) with extended lifespan (50 years)	Industrial Partnership, Certech, Celabor, Centexbel, ULiège	Marshall Plan Greenwin
UP_PLASTICS	Ecodesign of plastic materials for construction and building	UMons, UCLouvain, ULiège, CTP, Buildwise, Materia Nova, Certech, Celabor, Centexbel	ERDF
RECYAGE	Study of ageing on different time scales of recycled thermoplastic polymers and methodology for predicting long-term behaviour	Certech, Sirris	Win4Collective
HARDMat (EXTREMAT)	Formulation of Tungsten Carbide/Cobalt (WC-Co) Composite and Polymer Blends for Advanced and Environmentally Friendly Additive Manufacturing	CRIBC, Certech, UMons, Sirris	Just Transition Fund
RE-ASSIGN	Supporting companies in the integration of recycled plastics	Certech, CTP, Centexbel, CREPIM, IMT Nord Europe	Interreg VI FWVl supported by the ERDF & Wallonia
COMPOVERT	Development of functional composite materials with plant reinforcement	Certech, URCA, ULiège-GxABT, CRITT MI, IMT Nord Europe	Interreg VI FWVl supported by the ERDF & Wallonia
AGILITY	Processing of technical and filled polymers by 3D printing for maintenance applications and rapid tool manufacturing	CRITT MI, CRIBC, Certech, IMT Nord Europe	Interreg VI FWVl supported by the ERDF & Wallonia

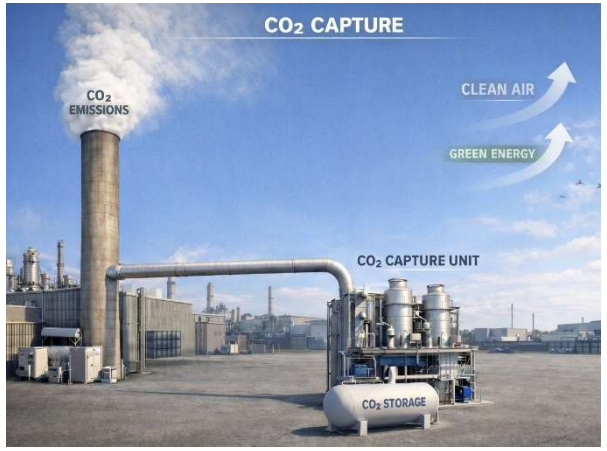
Project	Description	Partnership	Funding
Inside 3D	Development of personalized medical and pharmaceutical devices by 3D printing	CHU Lille, UMons, ULille, Centrale Lille, UGent, Eurasanté, UZGent, Certech, CNRS, VIVES Zuid, CRIBC	Interreg VI FWVl supported by the ERDF & Wallonia
NEXT-STEP	Production of sustainable and biodegradable materials based on 3-methyl-d-valerolactone (3MdVL)	AIMPLAS, Mevaldi, BBEPP, PDC, FIBENOL OU, UGent, UNIROMA1, Certech, DBFZ, Altar, Adidas AG	EU Horizon Europe-JU CBE
BIOSAFIRE	Development and manufacture of new, more sustainable and safer materials using biobased functionalised additives based on lignin and tannins to improve fire resistance	GAIKER, Noma Resins, Nordtreat Oy, VTT, Aislamientos Térmicos de Galicia, Sinergia Consulenze, PDC, TEMAS Solutions, Rymatex, Viba Agile Innovation, RISE, SII, Greendecision, apcl advertising product company, Fraunhofer-Gesellschaft, INSST, Arcelik, Vertoro, Centro Ricerche per la Chimica Fine, Refisa, EPSAN	EU Horizon Europe

NEW PROJECT

Project	Description	Partnership	Funding
CO_2DISRUPT	Development of an economically viable CO2 capture process for low-concentration flue gases	Certech, UMons, industry partners	Marshall Plan Greenwin, Mecatech

<u>CO_2 DISRUPT</u>

The CO2 DISRUPT project aims to develop an economically viable CO_2 capture process for low-concentration flue gases. The objective is to test a mobile pilot unit capable of capturing 1 to 2 tons of CO_2 per day at four industrial sites in Wallonia. This project addresses a major global challenge. According to forecasts, the necessary carbon capture capacity to be built between now and 2050 is estimated at 4 billion tons of CO_2, representing a market potential for equipment of about 1.6 trillion € for the period 2030-2050.



NEW EQUIPMENT

Additive manufacturing equipment's for pharmaceutical applications

The additive manufacturing capabilities were extended with the acquisition of three 3D printing instruments aimed at advancing personalized medicine and enhancing the integration of 3D technologies in healthcare:

- A compact filament extruder allowing to process limited quantities of material, making it particularly suited for R&D and pharmaceutical formulation screening.

- A 3D printer equipped with five extrusion printing heads, offering the flexibility to create complex pharmaceutical dosage forms, such as Polypills, combining multiple active ingredients into a single, patient-specific unit.
- A dual extruder capable of processing both pellets and filaments, allowing the direct printing of challenging materials that are difficult to convert into filament.

These instruments are compatible with most thermoplastic polymers and will allow to develop custom polymer formulations incorporating active pharmaceutical ingredients and excipients, tailored for additive manufacturing and the implementation of personalized medical solutions. Certech filament extrusion pilot line is also available for larger volume developments.

Custom flow reactors

Handling solids in intensified flow reactors (either as reagents or products) remains a demanding but crucial challenge that Certech has been actively addressing over the years through the design of custom flow reactors and processes.
Certech acquired a specific heated pump to further enhance its flow reactor system. With its heated head and transfer lines, this pump can reliably dose suspensions, light slurries and viscous reagents. This will help us advancing continuous flow processes involving solids, such as for instance crystallization and hydrothermal synthesis.

Microwave synthetiser

A new microwave synthetiser was acquired and commissioned. It is a powerful tool for the rapid screening of experimental conditions for organic/inorganic, polymers and material syntheses. Traditional chemical reactions very often require hours of heating for completion, but the new system can drastically reduce this time by providing an efficient and homogeneous energy transfer, leading to faster and more reproducible results.
This investment reinforces our commitment to support our customers for strengthening their product or processes developments. It strengthens the capabilities of both our Materials and Chemistry & Industrial processes departments, enabling rapid screening of experimental conditions and delivering essential data to subsequently intensify processes or to synthesis specific materials.

Impact tester

The Charpy/Izod impact testing unit for plastics and composites was upgraded with a new pendulum system.

The features of this new instrument are:

- ISO & ASTM compliance for Charpy and Izod (ISO 179, ISO 180, ASTM D6110, ASTM D256), with an energy range of 0.5–25 J depending on the hammer used.
- Fast changeover between Charpy/Izod configurations and interchangeable hammers (low/high energy), for greater flexibility and throughput.
- Integrated touchscreen interface with pre-configured methods for reliable, repeatable test campaigns.
- Low-temperature chamber, automatic hammer recognition
- Patented one-piece hammer design for higher stiffness and improved accuracy.

TD-GC-MS (Thermal Desorption-Gas Chromatography-Mass Spectrometry)

The specifications for materials used in automotive interiors are evolving extremely rapidly and becoming increasingly demanding. To meet these new requirements in terms of volatile organic compound emissions analysis, from the R&D phase to the qualification of the final material, a new thermal desorption gas chromatograph coupled with mass spectrometry detection was acquired. The new technology allows to ensure analytical sensitivity and robustness to support the automotive industry.

3. INDUSTRIAL COLLABORATIONS

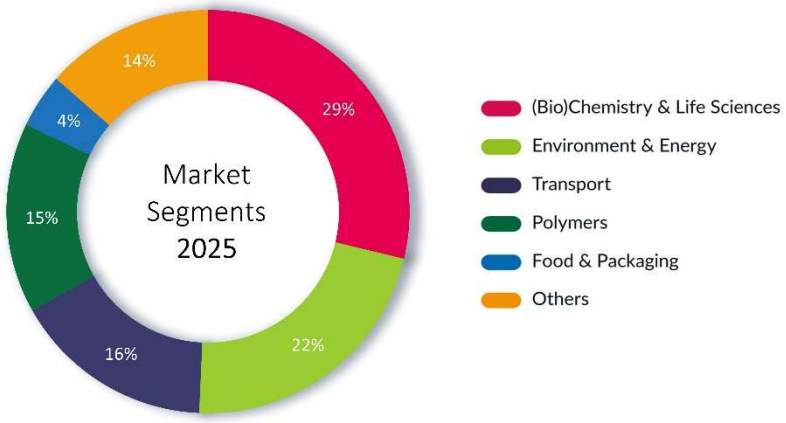
R&D PROJECTS and SUPPORTS

Certech collaborates with industrial companies in their development projects and fosters technological innovation. Concrete solutions, in-depth assistance and technical advice are provided by teams with recognised skills and knowledge. Semi-industrial and pilot equipment are also made available to industrial partners.
Experts are available for companies looking to improve their products/processes or looking to develop new products/processes. Support projects include feasibility studies, assistance or collaboration on R&D projects, technological transfer or the introduction of new products and processes, help with drafting new specifications, etc. This guidance activity is supported by literature survey, which enables experts to stay permanently up to date about the scientific and technical progress made within their field of competence which presents a high potential for industrial innovation.
Services activities include analytical support using a wide range of advanced equipment, problem solving, quality control and regulatory assessment.

In 2025, 200 companies received support in their innovation efforts, 51 (26%) of which were new prospects. A total of 420 contracts were handled.

INDUSTRIAL CONTRACTS TURNOVER BREAKDOWN INTO SEGMENTS

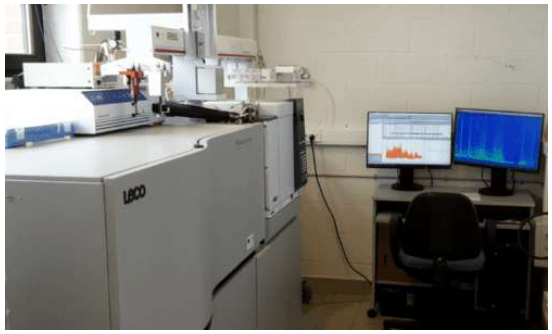
The major market segment for 2025 was (bio)chemistry & life sciences (29%) followed by environment and energy (22%), automotive (16%), and polymers (15%).



SUCCESS STORIES

Collaboration with Hennessy for the chemical characterization and synthesis of odorous molecules

Certech collaborated with Hennessy – leader in the production of cognacs and part of the French luxury group LVMH – in identifying odorous molecules in cognacs. Two key odorous molecules were identified in the Hennessy internal laboratory by coupling chromatography techniques with olfactometry (GC-O/TOFMS). Their chemical structures were determined by Certech using high resolution mass spectrometry (GC×GC-HRTOFMS) as well as its expertise in proposing structural hypotheses and then formulate the chemicals accordingly.
Based on these assumptions, two molecules were synthesised via organic chemistry for supplementary studies and specific developments.



Instrument GC×GC-HRTOFMS

Instrument GC-TOFMS/Sniffing

STRATEGIC PARTNERSHIP

Certech and Sirris join forces for sustainable innovation: a strategic partnership offering new opportunities for companies in activities related to (bio)chemistry, life sciences and plastics.

Certech and Sirris are joining forces to strengthen Belgium's industry in its green and digital transition. By combining their expertise in materials, production processes, and sustainability, both research centers aim to boost the innovation capacity of technology companies involved in activities related to (bio)chemistry, life sciences and plastics opening doors to new insights, infrastructure, and applications for their industrial partners. The collaboration between Certech and Sirris strengthens the bridge between advanced materials and (bio)chemistry & process technologies. While Certech brings its expertise in environment, materials science and process intensification, Sirris excels in digitalisation, industrial processes and sustainable production.
As the collective centre of the Belgian technological industry, founded by Agoria in 1949, Sirris is the reference for technology adoption in 5 domains: advanced manufacturing, product solutions, digital transformation, green transition and innovation management.
A shared vision for the industry of tomorrow, this collaboration aligns seamlessly with the Walloon 2024–2029 policy plan, which aims to strengthen coherence and visibility among the recognized research centers (CRA). The joint goal is clear: to help the Belgian industry grow by aligning research, development, and innovation (RDI) more effectively.
With the support of the sector federations essenscia and Agoria, we are building a stronger innovation network, giving companies from SMEs to large groups access to combined expertise, testing facilities, and tailored support.
Beyond collaboration: toward an integrated innovation network. The strength of this partnership lies in its complementarity. Companies now gain access to a broader range of knowledge, infrastructure, and support without added complexity.
By joining forces, we:

- Build the critical mass needed for large-scale innovation projects
- Unlock new markets and technologies
- Foster non-competitive synergies that strengthen the entire ecosystem
- For technology companies, this means one point of contact, two expert centers, and endless opportunities to grow in a sustainable, digital era

QUALITY

Renewal of the ISO 9001:2015 quality management system certification for the period 2025-2028.

Air quality: renewal of our Walloon Region approval

Certech's approval by the Walloon Region in the context of air quality and atmospheric pollution is valid for the period 2024-2029. This covers sampling, analysis, testing and research as well as measurement by dynamic olfactometry and odor detection threshold with human assessors.

Wallonie

Certech successfully participated in the 2025 annual inter-laboratory test organized by VITO in the field of atmospheric pollution demonstrating its ability to deliver reliable and accurate results.
Certech supports companies in the context of their regulatory requirements and the evaluation of treatment solutions. The parameters of interest, sampling techniques and analyses are discussed with each customer, in compliance with the specifications. We also develop specific methods when required. Certech's expertise covers a wide range of parameters and chemical pollutants, with the unusual feature of combining skills in odor analysis (including chemical identification of the molecules responsible for the nuisance).

Car Manufacturers approvals according to the technical requirements of ISO 17025 to measure odors and VOCs on materials and parts:

Stellantis approval for the following tests:

- VOC analyses according to CS-13398 (ISO12219-3 and/or D10 5495)
- Aldehydes and ketones analyses according to CS-13398 (ISO12219-3 and/or D40 5535)
- Odor according to CS-13398 (LP-463KC-09-01), and D10 5517-G

Renault approval for the period 2025-2028 for the following tests:

- VOC and aldehydes analyses from materials after conditioning in micro-scale chamber according to GDN-D49--2024-0006
- VOC and aldehydes, odor analyses from entire parts after conditioning in 1 m^3 chamber test according to GDN-D49--2024-7 and GDN-D49--2024-4
- Odor from materials according to GDN-D49--2024-4
-

Toyota Motor Europe recognition as an authorized laboratory to perform testing on parts /materials according to the following standards:

- TSM0505G: Smell Quality of non-metallic materials
- TSM0508G: VOC and aldehydes for materials, using sampling bag
- TSM0512G: VOC and aldehydes for parts, using large sampling bag

Financial incentives for industry:

Technology vouchers/Technical feasibility studies (Wallonia)
Certech is certified to the *"Chèques-entreprises/Chèques Technologiques"* program funded by Wallonia to support SMEs developing a new product, process or service that requires scientific validation.

Chèques-entreprises

KMO Portefeuille (Flanders)
Certech is eligible for technological consulting and contracting supported by Flanders via the KMO-Portefeuille.

kmo-portefeuille
ERKEND DIENSTVERLENER

Research tax credit (France)
The accreditation by the French authorities to the Research Tax Credit (CIR & CIL)) was renewed for the period 2025-2029. This mechanism provides a tax advantage to companies subject to income tax. CIR finances all R&D activities: basic research, applied research and experimental development.

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MINISTÈRE DE L'ENSEIGNEMENT SUPÉRIEUR, DE LA RECHERCHE ET DE L'INNOVATION

PARTICIPATION in TECHNICAL STANDARDISATION COMMITTEES

Thanks to its expertise based on R&D activities, Certech is an active member of several technical standardisation committees dealing with air quality, odors, volatile organic compounds (VOC) and photocatalysis.
Certech is helping industry professionals to:

- understand the aspects related to technical and scientific standardisation and regulations.
- stay up to date with methods and trends in standardisation and regulations in their specific sector.
- Implement the standards in their daily activity.

ISO/TC 146	Air quality
CEN/TC 264	Air quality
CEN/TC 351	Construction products
CEN / TC137	Occupational Health and Safety
ISO/TC 176	Quality management and quality assurance

EVENTS: **Plastic Recycling Workshop 30/09/2025-01/10/2025 Nivelles/Seneffe**

On September 30 and October 01, 2025, the Certech team welcomed about 70 delegates from all over Europe in Nivelles and Seneffe site. Specialists could share experiences relating to the field of mechanical and chemical recycling of plastic materials, future trends and needs.
With the participation of leading industry professionals, industry associations and trade bodies, R&D scientists, material specialists and market players, the conference offered an ideal platform for best practice sharing and acquiring new knowledge from participants and speakers and disseminating information.

Special thanks go to our guest speakers from Plastics Europe, Plastics Recyclers Europe, TotalEnergies, Blue Alp, Pryme, Veolia, Valeo, Indaver, Ineos, Interscience, Sciences Computers Consultants, Polymateria, Norbite.

4. ESG REPORT

4.1. Executive summary

Certech enters 2025 with strengthened commitments to environmental stewardship, social responsibility, and ethical governance. The organization has been awarded the 2025 EcoVadis Silver Medal, placing it among the 15% top-performing companies worldwide in ESG assessments. EcoVadis is the largest international platform that has been assessing companies' CSR performance since 2007 based on four pillars: Environment, Social & Human Rights, Ethics, and Responsible Procurement. This recognition reflects Certech's continuous progress in emissions reduction, energy efficiency, responsible procurement, and transparent governance.

Certech's mission remains centered on providing innovative, sustainable solutions in (bio)chemistry, materials, and industrial processes, supporting clients in their environmental and digital transitions.

4.2. ESG highlight for 2025

Certech achieved the EcoVadis Silver Medal 2025, ranking in the top 15% of companies globally for CSR performance. The assessment covers environmental aspects, labor & human rights, ethics and sustainable procurement.

In 2025, Certech strengthened its collaboration with Sirris through a strategic partnership to accelerate sustainable innovation in the local industry, combining expertise in materials, production processes, and green technologies

4.3. Environmental performance

Certech continued to reduce its environmental footprint through increased energy efficiency across laboratories and pilot lines, optimization of process technologies to reduce emissions and supporting customers in developing low-carbon materials and processes

Certech's projects in 2025 related to circular economy and resources efficiency focused on mechanical and chemical recycling of polymer materials, integration of recycled plastics into industrial applications, development of bio-based or recycled thermoplastic elastomers (TPEs) and valorization of organic waste into chemical components via biogas and CO_2 recovery.

Key innovations in sustainable materials and processes included flame retardants with improved environmental profiles applying the Safe and Sustainable by Design (SSbD) approach, functional composites reinforced with plant fibers, advanced additive manufacturing using sustainable materials for medical and pharmaceutical devices.

A carbon footprint reduction program has been started in 2017, including installation of solar panels, upgrading the heating system control, replacing compressors, optimizing HVAC programs, changing lighting from conventional to LED, improving offices insulation. In the period 2020-2025, gas and electricity savings of respectively 58% and 40% were achieved, which corresponds to 496 tons of CO_2. In 2024, in line with its commitment to reduce its environmental impact and to develop sustainable products and processes, Certech has installed 443 additional photovoltaic panels on its buildings. In 2025, Certech's photovoltaic installation generated 218 MWh of electricity, 55% of which was self-consumed on site. This renewable energy production enabled a 29% reduction in electricity consumption compared to 2024.

4.4. Social Responsibility

The EcoVadis evaluation confirms strong performance in labour law and human right aspects with employee health and safety as the top priority and applying fair and respectful labour practices. Certech has recorded ten consecutive years without workplace accident.

Certech invests in employees development by organising continuous training in advanced materials, chemistry, and sustainability, digital and green transitions, safe working environments in laboratories and pilot facilities.

Certech helps the local industry through knowledge transfer, by disseminating results, by setting-up joint R&D programs, and specific support for SMEs in adopting sustainable technologies.

4.5. Governance

Certech maintains strong governance practices aligned with the EcoVadis criteria: anti-corruption and ethics policies, transparent reporting and responsible procurement standards.

Certech ensures data integrity and compliance with EU regulations (REACH, environmental directives), rigorous quality management systems and secure handling of client and research data.

4.6. Sustainable Innovation and R&D

Certech's R&D strategy focuses on three axes: environment (air quality, circular economy, energy), materials technology (bio-based polymers & composites, emissions from materials, lightweight materials, mechanical recycling), chemistry & industrial processes (intensified processes, microfluidics, flow chemistry, catalysis and chemical recycling).

Notable 2025 achievements include new sustainable polymer formulations, improved recycling technologies, advanced additive manufacturing.

4.7. Stakeholder Engagement

Certech engages with industrial partners, research and technology organisations (local and at European level), academic institutions, local authorities, government agencies (regional and at European level).

The 2025 partnership with Sirris enhances access to shared infrastructure and accelerates sustainable innovation for local companies.

4.8. Outlook for 2026

Certech aims to:

- Further reduce operational emissions
- Expand circular economy projects
- Strengthen sustainable procurement practices
- Increase collaboration with industry on green and digital transitions
- Pursue higher EcoVadis ratings through continuous improvement

5. PARTICIPATIONS and COLLABORATIONS

PROFESSIONAL BODIES

www.essenscia.be

www.idea.be

www.wal-tech.be

www.src.ulb.be

www.valbiom.be

www.4spe.org

www.gn-meba.org

www.gfsv.net

www.bsoh.be

CLUSTERS

www.greenwin.be

www.polemecatech.be

https://www.wagralim.be

www.biowin.org

www.clusters.wallonie.be

www.clusters.wallonie.be

COLLABORATIONS

Certech is an Authorised Partner Laboratory from Agilent Technologies. The collaboration covers all aspects of molecular weight and chemical composition distribution by gel permeation chromatography (GPC), temperature rising elution fractionation (TREF) and odors and emissions from materials using thermal desorption gas chromatography mass spectrometry (TDS-GC-MS).

Editors in Chief of the Editorial Board of the International Journal of Polymer Analysis and Characterization (IJPAC).

Referee for the following journals: ACS Applied Polymer Materials, ACS Catalysis, Catalysis Communications, Catalysts, ChemCatChem, Chemistry Eur. J., European Journal of Inorganic Chemistry, Food Packaging and Shelf Life, Materials, Macromolecules, Molecules, Nanomaterials, Organic Letters, Polymer Chemistry, Polymers, RSC Advances, Synthesis, Solvent Extraction and Ion Exchange, Synthesis, Ultrasonics Sonochemistry, Frontiers in Chemical Engineering

Guest Lecturer at UCLouvain university (*Sustainable treatment of industrial and domestic waste; Safety in the industry; Sampling techniques and air analysis*) and Savoie University (*Process Intensification-Flow Chemistry-Sustainable Chemistry*)

6. PUBLICATIONS, LECTURES & ATTENDANCE at CONFERENCES & TRADE SHOWS

Books:

Purification of regenerated monomers, F. Boutros, M. Van Melkebeke, C. Lemenu, P. De Groote, pp 115, ch9 in PMMA Circularity Roadmap - Industrial Practice and Academic Insight , edited by Simon van der Heijden , Pascal Lakeman and Jean-Luc Dubois, 2025, De Gruyter

Application of regenerated MMA, M. Bierens, JF.Devaux, C. Lemenu, P. De Groote, MS. Pianesi, T. Compagnucci, J. Bermejo, P. Laekeman, pp 147 ch11 in PMMA Circularity Roadmap - Industrial Practice and Academic Insight , edited by Simon van der Heijden , Pascal Lakeman and Jean-Luc Dubois, 2025, De Gruyter

Scientific Papers:

Sonochimie organique, M. Draye, J. Estager, Techniques de l'Ingénieur, 2025, K1250v2

Setting the power coefficient and the baseline to linearise the signal of the evaporative light scattering detector, A. Boborodea, S. O'Donohue, A. Brookes, International Labmate Online May Buyers' Guide 2025/26, page 8-10

Improved flow cell design for a more performant Gel Permeation Chromatography – Fourier Transform infrared (GPC-FTIR) analysis, A. G. Boborodea, S. O'Donohue, A. Brookes, F. Zieschang , A. T. Boborodea, International Journal of Polymer Analysis and Characterization, DOI: 10.1080/1023666X.2025.2512840

Design of Multicatalytic Systems Through Self-Assembly, Antony E. Fernandes, Alain M. Jonas, Catalysts 2025, 15(3), 265

Technical Information Notes

Sonochemistry : principles, effects and good laboratory practice, J. Estager, NIT/25/01, published in august 2025

Accelerated reaction exploration in continuous flow with real-time UV-Vis Process Analytical Technology (PAT), A. Fernandes, NIT/25/02, published in December2025.

Bioplastics, Ph. De Groote, NIT/25/03, published in December2025.

Lectures:

COMPOVERT – vers des biocomposites fonctionnels, J. Estager, Evènement annuel INTERREG, Namur, 18 décembre 2025

Des déchets organiques aux composants chimiques via le biogaz, J. Estager, COMPOVERT, Atelier transfrontalier, Gembloux, 20 novembre 2025

Fonctionnalisation de l'amidon vers des composites, C. Lemenu, COMPOVERT, Atelier transfrontalier, Gembloux, 20 novembre 2025

Développement de composites fonctionnels à renfort végétal, B. Goffin, COMPOVERT, Atelier Transfrontalier, Gembloux, 20 novembre 2025

Gel Permeation Chromatography – Fourier Transform IR: An Advanced Technique for Analyzing Challenging Polymers, A. G. Boborodea, S. O'Donohue, A. Brookes, F. Zieschang, A. T. Boborodea, TECHNIQUES D'ANALYSE AVANCÉE DES POLYMÈRES, 5 NOVEMBRE 2025 – ESPCI - PARIS

Improved analytical methods for recycled plastics characterization, A. Boborodea, RE-ASSIGN, Atelier transfrontalier, Tournai, 31st October 2025

Increase Post-Consumer Recycled (PCR) content in HVAC (Heating, Ventilation & Air-Conditioning) plastic housing: investigations in odor issue, Tiphaine Pacary (Certech) – Alcina Tanghe, Philippe Legros (Valeo Power Division), Certech Plastics Recycling Workshop, Nivelles, 30 septembre-1er octobre 2025

Enhanced analytical characterization techniques for recycled plastics, C. Brasseur, Certech Plastics Recycling Workshop, Nivelles, 30 septembre-1er octobre 2025

Certech, your R&D partner in mechanical and chemical recycling, F. Collignon, Ph. De Groote, Certech Plastics Recycling Workshop, Nivelles, 30 septembre-1er octobre 2025

Exploring Headspace-trap and HiSorb™ sampling combined with GC-TOFMS/Olfactometry analysis for the characterization of odorous compounds in materials, C. Brasseur, 3rd Advances in Separation Science, Gembloux, 12-13 Juin 2025

Next-Gen of sustainable biobased chemical platforms and polymers enhancing sustainability in European industry, C Lemenu, W!NGO conference (Greenwin), Braine-l'Alleud, 27 mai 2025

A general approach to chemical risk assessment applied to a SSbD process carry out as part of the «NEXT STEP» European research project, S Moro, L. Bilteryst, BSOH – Back to basics, Bruxelles, 16 mai 2025

Introduction to the purification of biogas, J. Estager, B. Kartheuser, Obiwan guest open-lectures, online, 01 Avril 2025

Les matériaux isolants en MEB, A. Jadin, CNAM Entreprises FCEA02-APPROFONDISSEMENT EN IMAGERIE AU MICROSCOPE ELECTRONIQUE A BALAYAGE ET EN MICROANALYSE X, Paris 24-28 mars 2025

Recyclage chimique : exemple de la pyrolyse pour le traitement des déchets plastiques , Chemische recycling : voorbeeld van pyrolyse voor de verwerking van plastic afval, J. Wauters, événement de lancement Elas2Sustain et Circoplast, Tourcoing (France), 27 février 2025.

TD-GC-MS/O and TD-GC×GC-HRTOFMS for the characterization of odorous compounds in recycled materials, C. Brasseur, 16th Multidimensional Chromatography Workshop, Liège, 3-5 février 2025

A versatile Linearized Evaporative Light Scattering Detector (LinELSD) for challenging LC applications, A. Boborodea, Agilent Innovation Tour Belgium, 21 January 2025

Agilent LC-DAD-QTOF: An advanced instrument for polymer characterization, A. Boborodea, Agilent Innovation Tour Belgium, 21 January 2025

Standards:

ISO 13271:2012/Amd 1:2025 : Stationary source emissions — Determination of PM10/PM2,5 mass concentration in flue gas — Measurement at higher concentrations by use of virtual impactors — Amendment 1

ISO 30011:2025 : Workplace air — Determination of metals and metalloids in airborne particulate matter by inductively coupled plasma mass spectrometry

ISO 12219-11:2025 : Interior air of road vehicles — Part 11: Thermal desorption analysis of organic emissions for the characterization on non-metallic materials for vehicles

ISO 12219-12:2025 : Interior air of road vehicles — Part 12: Test methods for the determination of fogging characteristics of trim materials made from polyvinyl chloride (PVC) or polyurethane in the interior of automobiles

ISO 16000-22:2025 : Indoor air — Part 22: Detection and quantification of fungal biomass by fungal β-N-acetylhexosaminidase enzyme activity

ISO 16000-43:2025 : Indoor air — Part 43: Standard method for assessing the reduction rate of culturable airborne fungi by air purifiers using a test chamber

EN 16339:2025 - Ambient air — Method for the determination of the concentration of nitrogen dioxide by diffusive sampling

EN 14626:2025 - Ambient air — Standard method for the measurement of the concentration of carbon monoxide by non-dispersive infrared spectroscopy.

CEN/TS 18117:2025 - Workplace exposure - Detection and characterization of airborne NOAA (Non-Occupational Aerosols/Nanomaterials) using electron microscopy - Rules for sampling and analysis (Note: Listed in the VDI 2025 document as a TS).

prEN 18168:2025 : Ambient air - Biomonitoring with higher plants - Method of the standardised grass exposure

Poster

Développement transfrontalier de composites fonctionnels à renfort végétal, L. Lemkhanter, V. Aguié-Béghin, A. Gainvors-Claisse, T. Domenech, F. Berzin, J. Estager, C. Lemenu, E. Bovens, B.Goffin, 7ème colloque Fibres naturelles et Polymères, Troyes (France), 17-18 septembre 2025

COMPOVERT : composites fonctionnels à renfort végétal (poster), C. Lemenu, évènement W!NGO expo (Greenwin), Braine-l'Alleud, 27 mai 2025

Conference and Trade show Attendance

Event	Date	Location
Agilent Innovation Tour 2025	21-01-25	Leuven (B)
Final Workshop MOF4Air - Metal Organic Framework for carbon dioxide adsorption process	23-01-25	Brussels (B)
16th Multidimensional Chromatography Worskshop	03 to 05-02-25	Liège (B)
Congrès Innovative Biologics and CMC Challenges	11 & 12-02-2025	Charleroi (B)
Re:Design - Making the circular economy happen	18-02-25	Brussels (B)
BSOH - Hot Topics in Occupational Hygiene	21-02-25	Brussels (B)
Projet transfrontalier Elas2Sustain: *Sustainable thermoplastic elastomers (TPE) from bio-based or recycled material*, événement de lancement Elas2Sustain et Circoplast,	27-02-25	Tourcoing (F)
Webinar "Medtronic et l'impression 3D industrielle"	20-02-25	webinar
Stage EA02 CNAM: Approfondissement en imagerie au microscope électronique à balayage et en microanalyse X	24 to 28-03-25	Paris (F)
PRSE	01 & 02-04-25	Amsterdam (NL)
Conférence sur les tendances dans l'industrie en 2025	22-04-25	Charleroi (B)
BSOH - Back to basics	16-05-25	Brussels (B)
W!nGo (Greenwin)	27-05-25	Braine-l'Alleud (B)
3rd Advances in Separation Sciences	12 & 13-06-25	Gembloux (B)
Generative AI in research: lights, shadows and key competencies	13-06-25	webinar

Gérer les odeurs autrement	27-06-25	Webinar
La santé de demain se construit aujourd'hui, MedTech Wallonia	09-09-25	Gosselies (B)
BioWin Day	23-09-25	Namur (B)
Atelier transfrontalier RE-ASSIGN	31-10-25	Tournai (B)
CPHI 2025	28-10-25	Frankfurt (D)
Techniques d'analyse avancée des polymères (ESPCI)	05-11-25	Paris (F)
Workshop - Moderniser un système industriel complexe à l'aide de l'IA	07-11-25	Gosselies (B)
Conférence ARK: The Decarbonization of Hard-To-Abate industries	13-11-25	Louvain-la-Neuve (B)
Atelier transfrontalier COMPOVERT	20-11-25	Gembloux (B)
VOC Screening Seminar 2025	25-11-25	Kortrijk (B)
BioWin Nuclear Medicine Co-Creation Session	28-11-25	Namur (B)
Circular Design in Plastics : de la vision à la transformation	04-12-25	Bouge (B)
SPW-DCPF - Clôture de la programmation 2014-2020	04-12-25	Liège (B)
GN-MEBA conférence décembre: La cartographie analytique au MEB et à la microsonde	04 & 05-12-2025	Paris (F)
Evénement annuel Interreg FWVl - concours "Interreg Brick Masters"	18-12-25	Namur (B)

7. KEY FIGURES

Balance sheet

Assets	2025	2024
Fixed assets	**899.542**	**1.061.530**
Scientific equipment and installations	**899.542**	**1.061.530**
Current assets	**8.559.587**	**8.565.493**
Accounts due within one year	1.454.374	1.568.477
Cash investments	1.491.231	3.742.653
Cash	4.844.750	2.420.484
Adjustments (accrued income)	769.232	833.880
Total assets	**9.459.129**	**9.627.023**

Liabilities	2025	2024
Reserves	**5.565.712**	**5.620.172**
Restricted funds and other reserves	3.623.948	3.623.948
Accumulated reserves	1.735.795	1.658.711
Investment subsidies	205.969	337.513
Provisions for contingencies and losses	**183.034**	**224.911**
Debt	**3.710.383**	**3.781.940**
Accounts payable after one year	1.466.935	1.466.935
Accounts payable within one year	1.992.483	2.147.885
Adjustment accounts	250.965	167.120
Total liabilities	**9.459.129**	**9.627.023**

Income statement	2025	2024
Turnover	**4.009.888**	**5.149.346**
Industrial projects	2.158.284	3.229.495
Public research subsidies	1.289.236	1.395.534
Depreciation subsidy allowances	148.258	143.330
Other revenues	414.109	380.987
Expenses	**3.705.759**	**4.449.464**
Supplies and services	824.282	1.351.240
Salaries	2.881.477	3.098.224
Depreciation, provisions, and loss of value	**479.726**	**509.729**
Financial revenues	**261.224**	**36.688**
Financial expenses	**4.393**	**4.486**
Other expenses and Taxes	**4.150**	**31.823**
Net Result	**77.084**	**190.531**

Workforce	2025	2024
Total Headcount	**33**	**33**
Total FTE	28,9	30,6
FTE Scientists	25,3	27,4
FTE Technicians	1	1
FTE administrative staff	2,6	2,4

Management Team

General Assembly - Board of Directors

			Industry
UCLouvain	Eric Gaigneaux		
	Nathalie Burteau		
	Karine Glinel		
	Jean-Christophe Renauld		
TotalEnergies	Philippe Lodefier	Chairman	√
Dow Silicones	Serge Creutz		√
Cargill	Jean-François Hallebardier		√
Veolia	David Benanou		√
GMA Consult	Gisèle Maréchal		√
it4ip	Yves-Jacques Schneider		√
Bepharbel	Vincent Stephenne		√
IDEA	Maïté Dufrasne		√
Guest	Catherine Henneuse	Deputy General Manager	
SPW-EER	Emmanuel Delhaye	Observer	

General Management

General Manager	Thierry Randoux
Business Manager-Deputy General Manager	Catherine Henneuse

Auditor

Avisor scrl	Dorothée Hurteux

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