

Enabling the world to feed itself

Licensing state-of-the-art
urea plants

The innovation & license company
of Maire Tecnimont.



CONTENTS

| | | |
|-----------|--|-----------|
| 1. | About us | 03 |
| 2. | Maire Tecnimont | 04 |
| 3. | Stami Urea: a full life cycle philosophy | 08 |
| 4. | LAUNCH series: creating your plant | 10 |
| 5. | ADVANCE series: optimizing your plant performance | 21 |
| 5.1 | Support and plant staff training | 23 |
| 5.2 | Optimizing plant output | 25 |
| 5.3 | Improving product quality | 26 |
| 5.4 | Improving safety and environmental impact | 27 |
| 5.5 | Maintaining the plant and equipment renewal | 28 |
| 6. | EVOLVE series: upgrading your existing plant | 32 |
| 6.1 | EVOLVE CAPACITY™ | 34 |
| 6.2 | EVOLVE EMISSION™ | 35 |
| 6.3 | EVOLVE ENERGY™ | 35 |
| 6.4 | EVOLVE OPTIMIZER™ | 35 |
| 7. | Knowledge sharing | 37 |
| 8. | References | 38 |
| 9. | Contact details | 39 |

WELCOME

The United Nations expect the global population to grow well over 8 billion over the next three decades. Arable land isn't expanding at the same pace. Growing prosperity worldwide demands six times more fertilizer than required for rice or grain. This all adds up to increased pressure on our agricultural resources.

Creating the right conditions for food security will mean improving agricultural production, increasing crop yields and farming in ever more sustainable ways. Of equal importance are the challenges we face to maintain air and soil quality for future generations. As pioneers with a higher purpose, we believe we can contribute by enabling the world to feed itself and improve the quality of life.

Over the coming pages, we will guide you through our market-leading urea expertise and full lifecycle support services, illustrating how we can make a contribution to improve yield, food security and ultimately, the quality of life for all.

1. ABOUT US

As the world market leader in design, licensing and development of urea plants for the fertilizer industry, we apply our expertise, knowledge and experience in several markets; fertilizers, air quality, emission reduction technologies and all technologies for the integration of urea and adjacent processes.

Your reliable urea partner

For more than 60 years we have been at the forefront of development and innovations when it comes to urea. This has allowed us to gain pure knowledge that has in turn helped us to excel in our field. We can ensure that your plants are safe, require a minimum amount of equipment and run efficiently and sustainably for an extensively long time. As the market leader for decades we are proud to be a founding partner of over 250 urea plants using our technologies around the world and having carried out over 90 revamp projects.

Stamicarbon's headquarters are in Sittard, The Netherlands, with representative offices in Russia and China. Together with our excellent network of reputable partners we can provide all the technology, equipment, products and related services you will need to improve the food supply to the world.



2. MAIRE TECNIMONT

Stamicarbon is the leading technology provider and licensing company of the Maire Tecnimont Group, a top level international player in Engineering & Construction, Technology & Licensing and Energy Business Development & Ventures.

The Group is focused on plants for the hydrocarbon processing industries (Oil & Gas, Petrochemicals and Fertilizers), with competences in Power Generation and Infrastructure.

Listed on the Milan Stock Exchange the Group is headquartered in Milan, but is present in over 30 countries. It controls 45 operating companies around the world and can count on approx. 4,300 employees.

To find out more about Maire Tecnimont and its activities, visit www.mairetecnimont.com



CROP NUTRIENTS AND FERTILIZERS

Fertilizers provide the essential nutrients that crops need to grow, to be strong and to resist diseases. The nutrients are divided into two groups. Primary nutrients are Nitrogen (N), Phosphors (P) and Potassium (K). These are often combined into a NPK blend. The secondary nutrients; Sulphur(S), Calcium (Ca) and Magnesium (Mg) are needed in smaller amounts for crop growth.

THE NEED OF FERTILIZERS

As crops grow they absorb nutrients directly from the soil. To maintain a rich and fertile growing environment, these nutrients need to be returned to the soil otherwise crop production can stagnate or even cease.

UREA AND CROP NUTRITION

In 1828, in an attempt to synthesize ammonia cyanate, the German chemist Friedrich Wöhler “accidentally” discovered that ammonia cyanate can be converted into urea. This discovery opened the door to modern organic chemistry. Urea is considered an important nitrogen-based fertilizer in the world because of its high nitrogen content. Produced from natural gas and air (through derivatives ammonia and carbon dioxide), it is a white crystalline organic compound that contains approx. 46% nitrogen.

The vast majority of urea is used in the agricultural sector as a fertilizer to increase crop yield. Some 200 million tons of urea is produced each year, more than 80% of which is used to fertilize crops.

UREA MARKET

The global urea market is growing by more than 3% annually. This means that around seven new urea plants need to be built worldwide each year. Stamicarbon is capable of dealing with all challenges when developing and building a new plant. By delivering Stami Urea technology, proprietary equipment, products and services for the design and development of state-of-the-art urea production facilities, we provide the most sophisticated solutions and advanced support to guide you through the whole process.

3. STAMI UREA: A FULL LIFE CYCLE PHILOSOPHY

Our engagement and commitment does not stop after signing the contract and building your plant. We have developed an extensive technology, product and service portfolio for urea plants. We distinguish ourselves from the competition with our high quality standards and our Full Life Cycle philosophy.

With continuous support through the whole life cycle of your plant, regardless of what stage your plant is at, we offer you bespoke technological solutions, products and/or services that match your requirements. We offer a set of three series that suit a wide range of real world specifications.

We call these our LAUNCH, ADVANCE and EVOLVE series.

Your plant's life cycle starts with launching the design, executing the engineering, procurement and finally, construction of your plant. After the LAUNCH phase of the plant, you enter into the next stage - ADVANCE. Our products and services optimize the plant's performance. Furthermore, we provide you with the knowledge and latest designs in urea technology to upgrade your plant to EVOLVE to the next level.



LAUNCH Creating your plant

- Launch a new plant, with all the technologies, products and services needed for successful, sustainable and profitable urea production.
- Project development
 - Feasibility studies
 - Pool Reactor design
 - Pool Condenser design
 - Mega Capacity design
 - Compact design
 - Low Opex design

ADVANCE Optimizing your plant

- Advance your plant performance with products and services:
- Support and plant staff training
 - Optimize plant output
 - Improve product quality
 - Improve safety and environmental impact
 - Maintain the plant and equipment renewal if necessary

EVOLVE Upgrading your plant

- Evolve your plant to the next level with revamp and debottlenecking:
- Increase product capacity
 - Reduce energy consumption
 - Reduce emission output

4. LAUNCH SERIES: CREATING YOUR PLANT

The Stami Urea LAUNCH series is a group of technologies, products and services that ensure an effective design and optimal development of a new plant. From the moment you start to investigate the possibilities of building a urea plant, there are several economic and technical choices to be considered.

Stamicarbon will support you in this orientation phase and will be your partner throughout the whole journey of process design, project management through to plant start-up.



Project Development

Whether you work with a government seeking to monetize natural gas resources or secure national fertilizer supply, or individually you are interested to diversify your business activities, you will need to make two fundamental decisions – what to invest in and where. Fertilizers may be a lucrative option; for many an ammonia-urea plant, in particular, has shown a good return on investment; after all, urea is the world’s most used fertilizer.

From the outset, we like to be engaged in the development of urea plant projects. Our activities can include researching project feasibility, exploring conceptual plant designs, evaluating investment cost, identifying equity/debt financing possibilities and assessing Return-On-Investment. We are able to identify and involve relevant parties in the value chain and support the permitting process to successfully guide the urea plant construction project.

Feasibility studies

We can conduct feasibility studies (including Front End Engineering and Design) from a market, logistical, regulatory, economical and technical perspective. These studies will result in a thorough understanding of the technical and economic viability of the urea project which is important for the bankability and final investment decision of the urea project.

Technology and Commercial Proposal

Based on the plant’s feasibility study, we design a technological solution that best fits your needs. A commercial proposal will be generated containing the technology specifications, prices, guarantees and conditions of use.

SOLUTIONS FOR MELT SYNTHESIS

We are well known for our technology solutions, for example, the invention of the CO₂ stripping process in the 1960s, and we are dedicated to continuously improve and innovate our technologies. This has inspired us to develop the following:

LAUNCH MELT™ Pool Reactor Design

This is a low-height plant design with a minimal amount of piping and high-pressure equipment, that integrates the pool condenser and a vertical reactor into one piece of equipment: the pool reactor. This design is perfectly suited for capacities typically up to about 2500 metric tons per day (mtpd).

LAUNCH MELT™ Pool Condenser Design

This is a widely used design with optimal heat transfer, excellent process stability and high on-stream time. This design includes a high-pressure pool condenser combined with a relatively short vertical reactor and makes it as such the most efficient technology for capacities from about 2500 up to 6000 metric tons per day (mtpd).

LAUNCH MELT™ Mega Capacity Design

An alternative for the large capacities of up to 6000 mtpd is to apply the Mega Capacity Design. In this design the additional stripping and condensing capacity is made available by installing an additional section in parallel to the urea synthesis section. This unique design allows for equipment to be manufactured with, already proven, capacities.

LAUNCH MELT™ Compact Design

Our Compact design has a different layout with the synthesis section at a lower elevation from the ground. The total plant height is brought down to only 22 meters, irrespective of the plant capacity. A low elevation of the synthesis section makes construction work easier and reduces investment cost.

LAUNCH Low Opex™ Design

With our Low Opex design we minimize the steam intake of the urea plant to an unprecedented lower level, resulting in the most energy efficient design available on the market.



Process design and basic engineering

Based on your technology choice we work on a comprehensive Process Design Package (PDP) and Basic Engineering Package (BEP). This contains all engineering specifications and criteria to enable your Engineering Procurement and Construction (EPC) contractor to make the detailed engineering and build your plant.

OUR DESIGN PACKAGE INCLUDES AMONGST OTHERS:

- Process basis of design
- Material balance, steam balance and cooling water balance
- Piping and instrumentation diagrams (PID's)
- General design and material specifications
- Equipment data sheets
- Process flow diagrams
- Equipment & piping specifications
- Instrumentation & electrical specifications
- Design HSE and safety criteria
- Civil and structural design criteria
- Plot Plan
- Operating & Analysis Manuals

Equipment supply

The design of proprietary high-end equipment needs to be superior to secure the best performance and a long operating lifetime. Stamicarbon's equipment supply services are based on outstanding design and engineering expertise, combined with our in-depth knowledge of the fabrication process for which we only work with first-rate vendors qualified by us. By maximizing on the integration of our work process with the work process of the vendor, we can offer the shortest delivery times possible.

SOLUTIONS FOR UREA FINISHING

Depending on your market needs, we offer finishing technology solutions for solid granules, prills and pastilles as well as in liquid form.

Granulation

Granulation is regarded as the best suited end-product for export purposes and storage in large quantities, because of its higher crushing strength and lower dust formation. Stamicarbon's fluid bed granulation technology produces a superior product that complies with all required product quality standards. The key to our technology success is the minimum amount of formaldehyde used, allowing for substantial savings. Our design has the world's lowest dust production, ensuring less fouling and long production times between the cleaning cycles. Furthermore, thanks to our unique proprietary scrubbing design, Stamicarbon urea granulation meets the lowest plant emissions available on the market.

Prilling

Prilling is the most cost-effective method of finishing and very suitable for local product distribution. Stamicarbon designs rotating prilling buckets, through which the liquid urea droplets are evenly distributed in the prilling tower, crystallizing to become prills when falling down in a countercurrent direction with the prevailing air draft. Using an optional technique of seeding, the impact-strength can be enhanced, leading to better resistance to degradation during product handling.

Pastillation

An enriching addition to the traditional finishing techniques is the Rotoformer® pastillation process designed by Sandvik Process Systems, which Stamicarbon can effectively integrate with your urea plant. The pastilles can be produced at low investment costs, low operating costs and with a minimum of emissions. Moreover, as pastillation is already economically feasible in small capacities starting from 120 mtpd, it is ideally suited for producing specialty fertilizers and technical urea.

Urea Ammonium Nitrate (UAN)

An alternative way of fertilization is the liquid Urea Ammonium Nitrate (UAN). It has a low crystallization temperature, facilitating transport and storage, while application by spraying devices is easy and economical. UAN also allows for a more uniform distribution and portioning, even if mixing with other liquid fertilizers is desired. Stamicarbon's LAUNCH FINISHING™ UAN Design is ideal for the manufacturing of UAN solutions with low investment costs.

Diesel Exhaust Fluids (DEF) / AdBlue®

More stringent emission standards require vehicles to significantly reduce their NOx engine emissions. Therefore Diesel Exhaust Fluid (DEF) or AdBlue® is sprayed into the exhaust, reducing the NOx gases to nitrogen and oxygen. As a licensor of urea technology, Stamicarbon was in the ideal position to develop a state-of-the-art solution taking into account all regulations and requirements.

Technical Grade Urea for Melamine, Resins and Pharmaceutical applications

Melamine is used in the coating layer on tabletops, work surfaces, laminate floors, or as molding powder for kitchenware. The main feedstock for the production is urea. By using our unique knowledge of both urea and melamine, we implement the most effective solution for any type of coupling between new or existing urea plants and a melamine plant.



Engineering, Procurement and Construction

We can support you with our network of licensed contractors that have a wealth of experience in implementing our state-of-the-art technology. As an independent licensor and partner in related services, we cooperate with many contractors around the globe. During the EPC phase, we support you in reviewing design documents and HAZOP activities.

Training

Personnel are key to a successful operation. We conduct various customized training courses for operators and the maintenance crew on site or at Stamicarbon's premises.

Plant pre-commissioning and start-up

During the pre-commissioning stage our engineers complete a thorough check to ensure that everything has been built according to the Process & Instrumentation Design specifications (P&IDs). Amongst others we check the physical layout of the plant, accessibility, logics, water-based flushing and metering.

Finally we support you in the first start-up of the urea plant up to full capacity and completion of the acceptance test.

When your plant is up and running you are able to produce the highest quality urea.



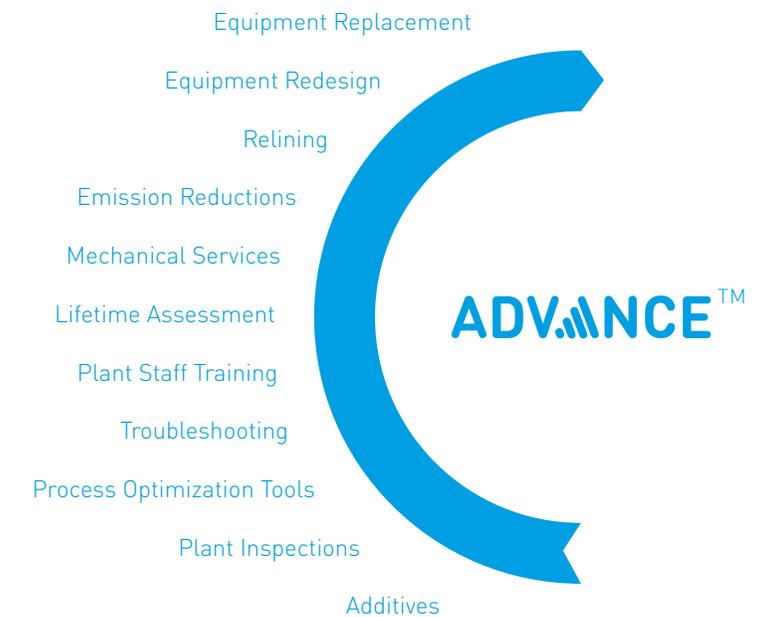


5. ADVANCE SERIES: OPTIMIZING YOUR PLANT'S PERFORMANCE

A fully optimized urea plant has an extended life, increased output, optimized energy efficiency, the highest safety standards and exceeds environmental regulations. Our ADVANCE series of Full Life Cycle services gives you a choice of product and service options for optimal plant performance.

Our ADVANCE series ensures the smooth and efficient operation of your plant in five areas:

1. Support and plant staff training
2. Optimizing plant output
3. Improving product quality
4. Improving safety and environmental impact
5. Maintaining plant and equipment renewal if necessary





5.1 SUPPORT AND PLANT STAFF TRAINING

People are the key assets of your business, who require continuous training and education for optimal performance. Stamicarbon can offer exclusive on-site training tailored to the specific needs of your plant staff, related to operations, technical, mechanical or maintenance. The training provides theoretical learning as well as plant simulator training or practical operation experience. Stamicarbon also offers a regional training and any bespoke training at various levels of expertise and topics.

Typical topics for ADVANCE INSTRUCT™ - Operations and technical training:

- Philosophy of the process lay-out and fundamental theory of process design
- Operating modes: plant start-up, plant shut-down, block-in, draining, key plant- parameters
- Operating case discussions and trouble shooting
- Process control: critical instruments, logics, safety philosophy
- Urea process simulator
- Plant equipment inspection techniques
- Plant lifetime assessment philosophy
- Corrosion and welding phenomena in traditional steel materials
- Repair procedures and failure mechanisms
- SAFUREX® (mechanical properties, process advantages, and welding training)
- Mechanical aspects and maintenance experience



5.2 OPTIMIZING PLANT OUTPUT

Through optimization of your plant's equipment and processes, you are ensured that your urea plant is not only operated in a sustainable manner, but also produces at maximum capacity with minimum energy consumption and with minimum emissions. To ensure your urea plant operates with maximum efficiency, we developed a range of plant operation services to improve performance, production and energy consumption.

Plant or Equipment Assessment Study

Optimization of your urea plant is often focused on improving the stability and on-stream time of its operation, increasing plant load of your full process or specific equipment operation. It typically starts with a Plant Assessment Study (entailing both on-site and in-office activities) to determine its current condition and performance. Proprietary urea plant models are used to perform such assessments based on the actual plant data, allowing bottlenecks to be identified and the plant to be optimized by redesign and updated operator instructions.

Throughout a Plant Assessment Study, we can investigate how to:

- Minimize ammonia consumption
- Minimize energy consumption
- Minimize effluents
- Maximize plant on-stream time
- Maximize plant capacity



5.3 IMPROVING PRODUCT QUALITY

While operation conditions and client requirements will change over the years of production, Stamicarbon can support you in maintaining and improving your product quality, so you not only meet, but exceed your expectations.

We pride ourselves on working in partnership with our customers, specialized institutes and equipment suppliers to constantly improve the quality of the urea product. We offer several products and services, related to fluid bed granulation, prilling, Urea Ammonia Nitrate solution (UAN), Diesel Exhaust Fluid (DEF)/AdBlue® technology and pastillation. An example of a recent product to improve product quality is our ADVANCE COAT™ Prill Strength.

ADVANCE COAT™ Prill Strength

This technology is an innovative coating composition that increases moisture-resistance, improves handling and storage properties and replaces the formaldehyde in prills.

ADVANCE COAT™ Prill Strength

With its very effective anti-caking and water-repellent properties, ADVANCE COAT™ Prill Strength has superior performance.

Applying it to your prilling product:

- Enhances product storage by lower dust formation
- Improves product handling and shipping
- Eliminates formaldehyde in your product

Additional advantages of prilled urea coated with ADVANCE COAT™ Prill Strength are: it does not cause foaming in technical applications and it is also entirely safe for use as a cattle feed supplement.

5.4 IMPROVING SAFETY AND ENVIRONMENTAL IMPACT

There are various potential hazards in a urea plant. We offer assistance with HAZOP studies and support to keep the risks managed and under control. We prevent the potential accumulation of combustibles in your plant by a hydrogen removal unit. We monitor your plant integrity by continuously checking your high pressure equipment for leaks. We advise on improvement of emissions by assessment of your current plant and reducing your emissions by improving your operation instructions, equipment design or introducing new technology.

ADVANCE DESIGN™

Thermal Treatment

Reducing the impact on the environment is something that we take very seriously. The ADVANCE DESIGN™ Thermal Treatment technology is developed in close co-operation with the gas treatment experts of KT Kinetics Technology. The result is a urea plant with low ammonia emission, but without any need for an environmentally unfriendly and costly flare system.

ADVANCE DESIGN™ Thermal Treatment

In general the continuous ammonia emission sources in a modern CO₂ stripping process are limited to:

- Vent gases from the low-pressure absorber.
- Vent gases from the atmospheric absorber.
- Breathing system of the atmospheric storage tanks.

Unique benefits of ADVANCE DESIGN™ Thermal Treatment:

- Most environmentally friendly solution for off-gas treatment in the urea melt plant
- Lowest emissions available for a urea melt plant with guaranteed ammonia (NH₃) and NO_x emission. Expected NH₃ emission of < 1 ppm
- Complementary 20 bar steam generation
- Low CAPEX and OPEX
- Suitable for all urea plants of any process license

5.5 MAINTAINING THE PLANT AND EQUIPMENT RENEWAL

In order to ensure that your urea plant is always well maintained we offer a range of services in the ADVANCE INSPECT™, ADVANCE DESIGN™ and ADVANCE MONITOR™ product ranges.

ADVANCE INSPECT™

Our inspection services are specifically designed for high-pressure equipment, piping and life time assessment studies for your urea plant, as well as inspection services for ammonia plants and ammonia storage tanks. With unrivalled experience in the use of construction materials, the prevailing process conditions and their impact on degradation and corrosion, we are able to estimate the remaining lifetime of your existing high-pressure synthesis equipment.

ADVANCE DESIGN™ Equipment Supply

Replacement of equipment in your plant gives you the opportunity to upgrade our equipment to the newest design insights and standards. Stamicarbon is able to design your equipment to the current process conditions and optimize your equipment performance accordingly.

Replacing this equipment can be even more critical, given design constraints and the time-sensitive nature of projects. Our ADVANCE DESIGN™ Equipment Supply combines our design and engineering competences with in-depth knowledge and experience of the fabrication process - all of which results in an extremely efficient delivery of high-quality equipment. Smoothest project execution - with a single point of contact - is secured through our own specialized project management team, coupled with close co-operation with our carefully selected and qualified equipment fabrication partners. The design and quality assurance/quality control during fabrication of the high-pressure synthesis equipment determines the reliability and availability of your urea plant.





**Safurex® duplex stainless steel:
resistant to corrosion**

Developed together with our partner Sandvik Materials Technology, Safurex® is our standard for urea production. The use of Safurex® minimizes known active forms of corrosion that occur in the urea plant, thanks to its superior mechanical properties and improved processing. The result is it outperforms any other viable stainless steel high-pressure applications.

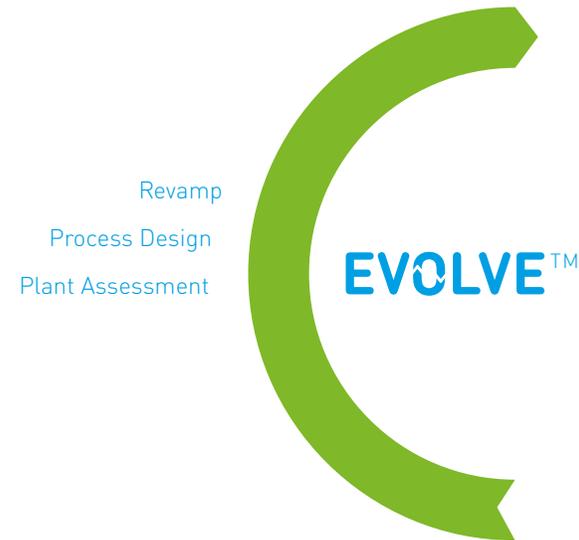
Safurex® offers numerous benefits, including:

- No risk for active corrosion
- No stress corrosion cracking
- No risk for condensation corrosion
- No risk for crevice corrosion
- Better mechanical properties, allowing for smaller wall thickness of equipment and piping
- Improved fatigue properties

This is only a small overview of the services and products in the ADVANCE series, which we provide to continuously advance your plant performance and product quality. For more services we are happy to talk with you to understand your requirements, and how we can advance your plants performance together.

6. EVOLVE SERIES: UPGRADING AN EXISTING PLANT

The EVOLVE series ensures your plant is compliant with changes in legislation and stays competitive by adapting to the changes in market conditions.



Plant Assessment/Revamp Studies

An EVOLVE project usually starts with an onsite plant assessment and debottlenecking study that determines the current performance levels of your plant and the opportunities for a capacity increase or a reduction of your plant's emissions or energy consumption.

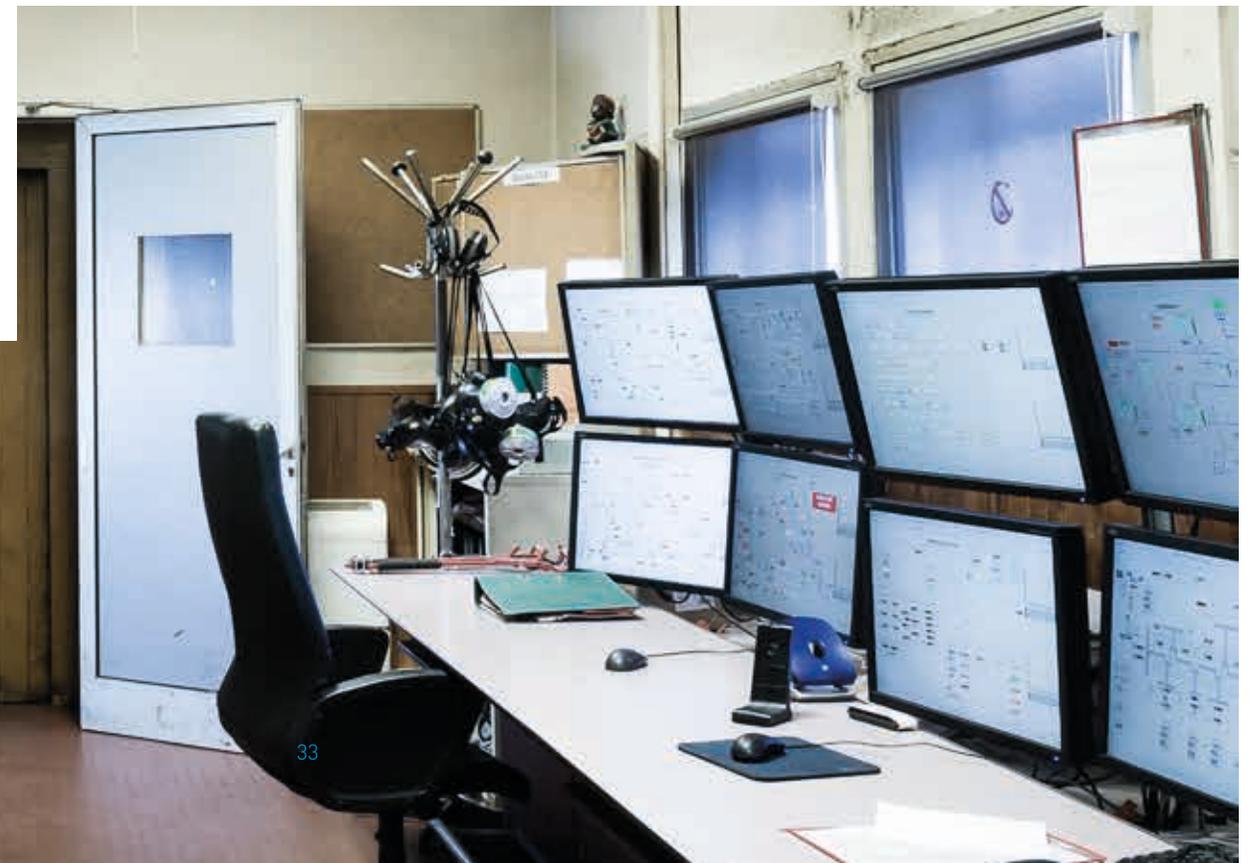
Process Design

Based on your individual requirements, we can tailor a unique process design, developed on our proven technology solutions that perfectly matches your requirements and your plant's specifications.

Revamp and Debottlenecking Review

Revamping your urea plant will help you take full advantage of your plant's design margins, boosting urea production while minimizing investment in additional resources and infrastructure. During the EVOLVE revamp process, we monitor the engineering and after the construction stage, we will take an active role during the commissioning and start-up phase.

Our EVOLVE solutions come in 4 varieties: EVOLVE CAPACITY™, EVOLVE EMISSIONS™, EVOLVE ENERGY™ and EVOLVE OPTIMIZER™.





6.1 EVOLVE CAPACITY™

Significantly increasing your plant output, from 10% up to 100%.

One of the revamp solutions to increase the capacity is debottlenecking your plant. The extent of debottlenecking your urea plant will depend on the availability of feed stocks, utilities and particular plant limitations. We have developed several debottlenecking solutions that enable us to meet your exact requirements. Hybrid combinations of these solutions can be chosen as well.

Debottlenecking will enable you to:

- Take full advantage of the plant’s design margins
- Boost urea production with the same number of people and basic infrastructure
- Reduce total fixed and operating costs, lowering the price of the urea produced
- Improve the plant’s competitive advantage

| EVOLVE CAPACITY™ Designs: | Expected capacity Increase* % |
|---|-------------------------------|
| EVOLVE CAPACITY™ More-In More-Out Design | 10 - 30 |
| EVOLVE CAPACITY™ Double Stripper Design | 30 - 40 |
| EVOLVE CAPACITY™ MP Add-On Mega Capacity Design | 30 - 50 |
| EVOLVE CAPACITY™ Pool Condenser/Reactor Design | 50 -100 |

*The reference for the given capacity increase is the nameplate capacity; actual achievable increase in plant capacity depends on the original design margins of the large capital equipment.

6.2 EVOLVE EMISSION™

Reducing emissions according to international standards.

As communities and authorities enforce ever stricter emission standards, we have pro-actively developed several technologies to improve the Safety, Health and Environmental (SHE) aspects of all urea plants. In modern urea plants, the finishing section is usually the main source of ammonia emissions. Whether the finishing section of your urea plant uses prilling or granulation, we can reduce ammonia emissions to meet international standards.

6.3 EVOLVE ENERGY™

Significantly lower steam utilization and optimal use of feed stock consumption.

Our continuous innovations in urea melt production technology and urea granulation technology reduces energy consumption in your urea plant, reduces construction costs and increases production efficiency.

6.4 EVOLVE OPTIMIZER™

Optimizing efficiency, output and plant performance to its maximum

Plant managers are constantly under pressure to maximize profitability against the backdrop of global competition, tightening legislation on ecosphere load and fluctuating feed stock prices. Our efficiency and capacity optimizer helps to achieve such goals. It offers you the ultimate optimization for your plant, giving you insights on how to push your plant’s performance to its maximum capacity and increases margins simultaneously.

By optimizing the entire urea plant operation 24/7 all complex interactions in the process are taken into account. EVOLVE OPTIMIZER™ will evolve your plant operators to plant operator supervisors, who need to guide the process through unpredicted upsets.



EVOLVE OPTIMIZER™ is Stamicarbon’s innovative solution to:

- Increase urea production load
- Stabilize plant operations
- Reduce energy consumption



7. KNOWLEDGE SHARING

Our solutions are based on years of high-quality research and in-depth knowledge of the industry, gained in licensing more than 250 urea plants and revamping more than 90 plants worldwide. We work closely with the entire value chain to improve our current technologies and develop new ones. As the world's leading urea authority we are committed to the long-term success of this industry and that means sharing our insights, solutions and knowledge.

On our website www.Stamicarbon.com you will find our Knowledge Center. Here you can access our brochures and papers that have been published over the years. Our knowledge is shared during conferences on specific topics that allow you to keep up-to-date with the latest developments in urea.

Whether you want to LAUNCH, ADVANCE OR EVOLVE your plant we would like to invite you to have a conversation with us. As this brochure is only a highlight of our knowledge and capabilities, we would like to assess your requirements and develop a customized proposal that is tailored to your exact needs.

8. REFERENCES

We are proud to share our success stories with you and a complete list of references is available online. Here are just a few examples of our latest completed projects:



Design:
LAUNCH MELT™
Pool Reactor Design

Customer:
Bangladesh Government, BCIC,
Fenchuganj, Sylhet

Location:
Shahjalal, Bangladesh

Capacity:
1760 mtpd

Contractor:
China Chengda Engineering, China

In operation since:
2015



Design:
LAUNCH MELT™ Pool
Condenser Design

Customer:
Turkmenhimiya State Concern

Location:
Mary City, Turkmenistan

Capacity:
1925 mtpd

Contractor:
Kawasaki Plant Systems, Japan

In operation since:
2014



Design:
LAUNCH MELT™ Pool
Condenser Design

Customer:
Inner Mongolia Bodashidi
Chemical Company

Location:
Wushen, China

Capacity:
2860 mtpd

Contractor:
Wuhan Engineering China

In operation since:
2014

9. CONTACT DETAILS

Stamicarbon Head Office,
Sittard, The Netherlands

Visiting address:
Mercator 3
6135 KW SITTARD
The Netherlands

Mail address:
P.O. Box 53,
6160 AB GELEEN
The Netherlands

Tel.: +31 46 4237000
Fax: +31 46 4237001
E-mail: communication@stamicarbon.com
Website: www.stamicarbon.com

Stamicarbon Representative Office
Beijing, China:
Room-3503, floor 35th, Jingcheng Mansion,
No.6 Xin Yuan Nan Road,
Chao Yang District,
BEIJING 100004
P.R. of China

Tel.: +86 10 84862886
Fax: +86 10 84862836
Website: www.stamicarbon.cn

Stamicarbon Representative office
Moscow, Russia:
"Naberezhnaya Tower" Block B, 8th floor,
10, Presnenskaya Naberezhnaya,
Moscow, 123317,
Russia

Tel.: +7 495 730 63 16 ext. 5412
Fax: +7 495 730 63 13
Website: www.stamicarbon.ru



All technical and other information contained herein is based on general Stamicarbon experience and within this limit is accurate to the best of our knowledge. However, no liability is accepted therefore and no warranty or guarantee is to be inferred. Copyright Stamicarbon BV. All rights reserved. No part of this publication may be reproduced in any form or by any means without the permission of Stamicarbon BV. You will access its contents solely for your own private use and will comply with all applicable laws and regulatory requirements relating to your use of this information.



Stamicarbon B.V.
Mercator 3 - 6135 KW Sittard,
The Netherlands.
P.O. Box 53 - 6160 AB Geleen,
The Netherlands.

Tel. +31 46 4237000
Fax. +31 46 4237001

communication@stamicarbon.com
www.stamicarbon.com

