

Foreword

Dear Readers,

European companies offer top solutions in the plant-based food sector. On the following pages, you will discover the European specialists who can support you with their know-how to bring your products and solutions to market faster and more efficiently.

Leading experts agree that the market for plant-based/vegan products will continue to grow significantly on a global scale in the coming years. Consumer demand for plant-based products is on the rise, also, in the face of the accelerating change in our climate. Plant-based offerings based on alternative proteins are regarded as a solution to sustainably transform the food system and feed the world's growing population.

the mar- European engineering has a key roleto play in this context. Innovationscantly on and solutions from Europe areyears. widely used and accepted in food

production all over the world. Some manufacturers of these products can look back on decades of knowhow in their market segment.

The vegconomist team wishes you every success!

Ret Cin

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Legal Disclaimer



Imprint

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Companies

Privatmolkerei Naarmann GmbH



A COMPANY

The VEMAG Customer Centre: From the idea to industrial production

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VEMAG



VEMAG Maschinenbau GmbH

- www.vemag.com
- ✤ approx. 800 employees
- Verden (Aller) / Germany
- Product offer: Machines for filling, portioning, forming and placing into trays as well as customised constructions

Contact:

Jens Thörnich Product Manager Plant Based Protein jens.thoernich@vemag.de



The German engineering company VEMAG builds industrial machinery for food production. The high-performance machines can be used to fill, portion and shape pasty and flowable products. The specialists from northern Germany also offer individual solutions for handling. At the heart of the portfolio lies the vacuum filling machines, which gently convey the filling material with the aid of double screw technology.

High Flexibility

The double screws of the filling machines work constantly and pressure-stable even under extraordinarily high loads. Even



very stiff and solid masses can be reliably portioned with high weight accuracy. Consistent product quality is guaranteed. The filling machines can be equipped with variable double screws depending on the requirements. Users thus have the option to optimally adapt the double screws individually to the product characteristics. This adaptation of product to machine increases weight accuracy and makes the best possible use of production output.

Further advantages: Easy handling and cleaning

The fact that this conveying technology consists of only two components - the double screw itself and the housing - means that the machine can be cleaned easily

and quickly, allowing efficient production planning due to the short changeover times.

Individual shapes and customised constructions With the VEMAG filling and forming machines and the numerous other attachments,

numerous other attachments, not only the classic sausages, burger patties and balls can be produced and placed into trays - all imaginable shapes can be realised. In addition to the standard portfolio, the area for customised designs offers room for creative ideas, new shapes and individual solutions for production lines.

Interested in more information?

We look forward to welcoming you to our homepage. You can also download our free whitepaper at www.whitepaper.vemag.com

The company offers modularly designed attachments / © VEMAG



The filling machines can be equipped with optimally adapted double screws depending on the requirements / \circledcirc VEMAG

We offer

- From one source with easy-to-operate machines "Made in Germany".
- ✤ Local service worldwide
- Individual solutions
- VEMAG Customer Center with food licence (=food grade) and product tests on site or online
- Support with product development

YOU PROVIDE TASTY

WE PROVIDE PERFECT SHAPES.



- Plant-based burger patties like home made
- Variable shapes for individual product customization
- Modular systems for maximum flexibility in production
- High performance and perfect texture

For more information visit plant-based.vemag.com or contact us e-mail@vemag.de

Shaping the future with VEMAG.





Albert Handtmann Maschinenfabrik GmbH & Co. KG

- www.handtmann.com/food
- ▶ 1.240 employees
- Biberach a.d. Riß / Germany
- System solutions for the production of a host of food products – from product preparation to filling, portioning and transfer to packaging.

in 1954, Handtmann has made a significant impact and managed to advance the core technologies of filling and portioning to a technical premium standard for the food industry.

Since the company was established

Today, we offer not only individual machines for modular setups, but also technically outstanding line solutions that meet the diversity of dietary trends and the ever-changing needs of the customer. We like to think beyond, and developed the perfect solution for filling, portioning, linking, forming and dosing, starting at the product preparation stage with the appropriate mixing and emulsifying technology.

Contact: sales.machines@handtmann.de

For the downstream processes that follow the processing, we provide flexible product handling systems and interfaces for maximum automation and line expertise. Perfectly coordinated components that meet the varied requirements of our customers are paramount to us. After all, today it is more important than ever for food processors to be able to plan ahead, adapt dynamically and flexibly to changing market conditions, and

NOUEC

We turn ideas into solutions – since 1954

remaining one decisive step ahead of the competition. This is why today we also provide the appropriate machines for vegetarian, vegan and meat substitute products, in addition to solutions for various industries. In doing so, we combine state-of-theart technology with well-founded expertise in food technology and value-adding services. The outcome are sustainable, economically viable solutions with individual value added.



We offer

- Modular individual machines and customised line solutions
- Handtmann Technology Centers for product testing, on site or digitally
- ✤ Global sales and service





Coperion GmbH

- www.coperion.com
- ✤ 2,500 employees
- Stuttgart / Germany
- Product offer: Extrusion, feeding and weighing technology, bulk material handling and services

Contact:

John Sheehy Global Key Account Manager Plant-Based Foods jsheehy@coperionktron.com



Maximum Flexibility with the ZSK Food Extruder in Hybrid Design

Vegetarian meat alternatives have broken sales records over the last years. The choice of protein, recipe and moisture content are certainly important when imitating the consistency and aroma of meat. But also, the flexibility and reliability of the production systems determine the overall product quality.

The ZSK Food Extruder from Coperion is ideal for the production of meat substitutes. Its closely intermeshing screws with their tight self-wiping profile eliminate stagnant zones over the whole length of the process section for an optimal mixing behaviour. Further, the production parameters of Coperion's systems can be reliably scaled up to other machine sizes. Therefore, the results achieved on a laboratory extruder can be safely replicated on a production scale.

One Extruder, Endless Possibilities

To provide manufacturers of plantbased products with maximum flexibility Coperion offers a food extruder in a hybrid design. This system allows for an easy switch between the production of Texturized Vegetable Proteins (TVP) and High Moisture Meat Analogues (HMMA). While dry textures, such as soy granules, are directly cut by a centric food pelletizer ZGF, products with a higher water content have to pass through a cooling die. There, the mass is forced into a laminar flow while cooling down which eventually creates meat-like structures. The set-up of the extruder and feeding systems normally remains the same.



- Proven ZSK Food Extruder now available in hybrid design
- Quick changeover between TVP and HMMA applications and vice versa thanks to an innovative adapter solution





III Creapure®

Creapure[®] made by AlzChem Trostberg GmbH

- www.alzchem.com/en/nutrition
- ✤ 1,630 employees
- ✤ EUR 379 Mio turnover
- Trostberg / Germany

Product offer: Creapure[®]: Pure creatine monohydrate made in Germany

Creapure[®] is high-purity creatine monohydrate made in Germany by AlzChem. Creatine monohydrate is the best available source of creatine for the body and the best form for enriching foods. Creapure[®] can be added to meat substitutes, dairy alternatives and dairy products as well as to bars and cereals, offering those products an added value.

When selecting creatine monohydrate for food production, the highest quality and purity are a prerequisite. Creapure® is manufactured in accordance with the strict standards according to regulations on the hygiene of foodstuffs. The production of Creapure® is GMP compliant, follows HACCP principles and is IFS Food certified. Raw materials used for Creapure® production are not of animal origin, making Creapure® vegetarian and vegan friendly.

Improving the nutritional profile of plant-based products with Creapure®

Creatine is a substance that occurs naturally in the body. It plays a crucial role in the storage and transport of energy in every single cell; muscle, brain and nerve cells, as well as our immune cells, all benefit from a dietary supply of creatine to complement the body's own creatine synthesis. This effect manifests itself as higher levels of available energy – both physically and mentally.

Creatine is also a natural component of animal products: mainly in meat and fish, but also in traces in dairy products. Plant foods do not contain any creatine.

Individuals with low or no creatine intake, particularly vegans and vegetarians, have lower creatine levels compared to omnivores. To support the metabolism of these individuals, the dietary intake of creatine is essential. Creatine-enriched plant-based products are the easiest way to replenish creatine stores. Creatine monohydrate is the best available source of creatine for the body and the best way to enrich foods.

As such, creatine monohydrate is a promising functional ingredient for plant-based products making them as natural (when it comes to the composition) as animal-based products. Products, enriched with creatine monohydrate, optimize the nutritional profile and offer vegans and vegetarians an ideal creatine supply.

Did you know that...

- w ... vegans and vegetarians have lower creatine levels compared to omnivores?
- … only animal-based products naturally contain creatine?
- … creatine plays a key role in the energy metabolism in every single cell?
- … for humans who eat a plant-based diet, it is important to replenish their creatine store with creatine-enriched functional foods?





c creatineContact:ns andNew Business Human NutritioncreatineVerena Löberivores.verena.loeber@alzchem.com



Lallemand Bio-Ingredients - Savory

▶ www.bio-lallemand.com

Montreal / Canada

Product offer: Flavor Masking: Toravita® Flavor Keys: Savor-Lyfe® High value, yeast-based ingredients to optimize the flavor profile of plant-based meals.



Lallemand Bio-Ingredients develops, produces and markets high-value yeast products including whole cell nutritional yeast, yeast extracts and yeast derivatives. Our ambition is to provide food processors with wholesome and sustainable components to optimize their culinary objectives.



We are invested and aspire to support plant-based development with our unique, well-suited solutions.

As taste is king, the incorporation of novel plant-based proteins into foods could be challenging due to undesired bitter notes and unfamiliar "green" flavors, typical of the vegetable proteins from soy, pea, potato, and other vegan sources.

Toravita[®] natural ingredients are great tools for flavor houses and plant-based meal developers to modulate the perception of those undesired notes.

The **Savor-Lyfe**[®] product range includes yeast extracts and yeastbased flavorings with a well-defined flavor direction, suitable for all types of savory food preparation and key to building the taste foundation of plant-based meals: from beef to chicken, white fish and pork-style, the Savor-Lyfe[®] range will deliver the taste without harming any animals.





Toravita®



Savor-Lyfe®

Lallemand's portfolio includes the world-famous brand **Engevita®:** our nutritional yeast is ideal for direct consumption as a natural food supplement, or as a functional ingredient in meal replacements and superfood mixes.







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NAARMANN

Privatmolkerei Naarmann GmbH

- www.naarmann.de
- 200 employees
- EUR 100 Mio turnover
- Neuenkirchen / Germany
- Product offer: Plant-based alternatives (e.g., Oat drink, Sour cream, Creme Cuisine, Apple Pudding, Chocolate Pudding, HaYo – Oat product with vegan yoghurt cultures) and dairy products

Since 1903, Naarmann has been producing high-quality, durable and diverse products for the gastronomic, export and food processing industries.

Caterers and their customers can appreciate the quality, simple and hygienic handling, convenient container sizes and excellent product characteristics.

Our aim is to develop new and specialized products. For example, more and more people want to eat dishes with ingredients of non-animal origin. This often challenges professional chefs because they have to modify or re-create their milk- and meat-based recipes.

With our WE ♥ PLANTS products, we offer professional chefs and restaurateurs a unique solution. These dairy alternatives make it easy to exchange milk products



in traditional dishes. Whether appetizer, main course or dessert – the assortment offers a diverse selection for all your creations.

We work daily with consumers, product developers and other nutrition experts to develop new ideas and recipes. In view of the ever-present environmental issue, we also focus is also on the reduction of packaging waste and the use of sustainable packaging. For caterers and their customers, we have even more to offer: Our various packaging options, such as our bag-in-box system, offer convenient, hygienic and low-waste solutions.

Today, Naarmann is in the fourth generation in family ownership. Through regular investments in new technologies and internal innovations, the quality and diversity of our products are constantly developed and optimized in order to be able to offer our customers the best possible products.

Naarmann. Clever concepts for food service professionals.

Contact: info@naarmann.de

Naarmann WE ♥ PLANTS – HaYo with fresh fruits, cereals and agave juice

V Do you want to be part of this brochure as well?

You want to promote your company and your products and solutions for the plant-based market globally in/at vegconomist?

Then secure one of the coveted places in the online brochure "European Engineering for Plant-based Excellence". And reach a professional audience in 190 countries around the world with just one advertisement or advertorial, for 12 months.

- Make decision-makers in the global plant-based market aware of your company and your innovations
- ✤ Sustainably expand your customer base
- ✤ and thus, ensure increasing sales revenues.

If you have any questions or require further information, please contact the team at vegency: Plant-based_Excellence@vegency.com



vegconomist - the vegan business magazine -

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