



VISSMANN TECHNOLOGIES

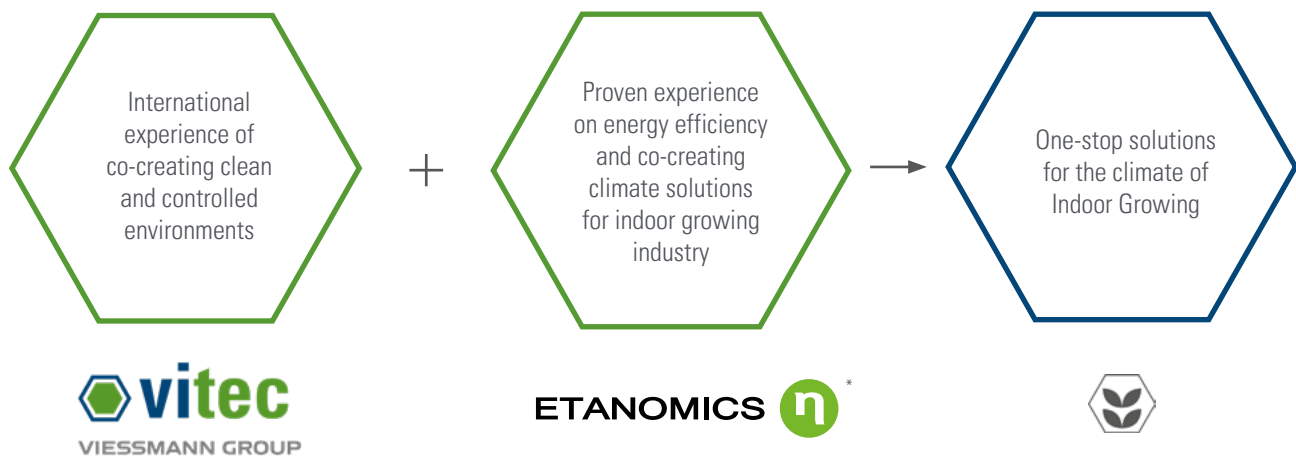
CONTROLLED ENVIRONMENT SOLUTIONS FOR INDOOR GROWING



CO₂ and resource-
saving, pesticide-free
plant cultivation and
research

Indoor growing solutions for integrated and sustainable growth

Energy efficient solutions



* Etanomics is full part of the family owned Viessmann Generations Group. The company is specialist in energy optimisation and decarbonisation of companies and the development of holistic energy concepts with the overall aim of reduction in energy consumption and protecting the environment.

Scope of services

TURNKEY CONTROLLED AREAS FOR:

- + Breeding
- + Production areas
- + Harvesting
- + Shipping
- + Complete farmhouse paneling
- + Steel structure

SEGMENTS:

- + Climate control
- + Vertical Farming
- + Botanic
- + Medical Cannabis
- + Protein production
- + Insect Farm
- + Mushroom
- + Indoor controlled environment

CONTROLLED AREA EQUIPMENT AND PRODUCTS:

- + System walls
- + Ceiling and door systems
- + Air supply-/ air circulation systems
- + Integrated exhaust-air systems
- + Controlled area surface lighting
- + Integrated functional furniture
- + Hatches and airlock systems
- + Integrated media supply system



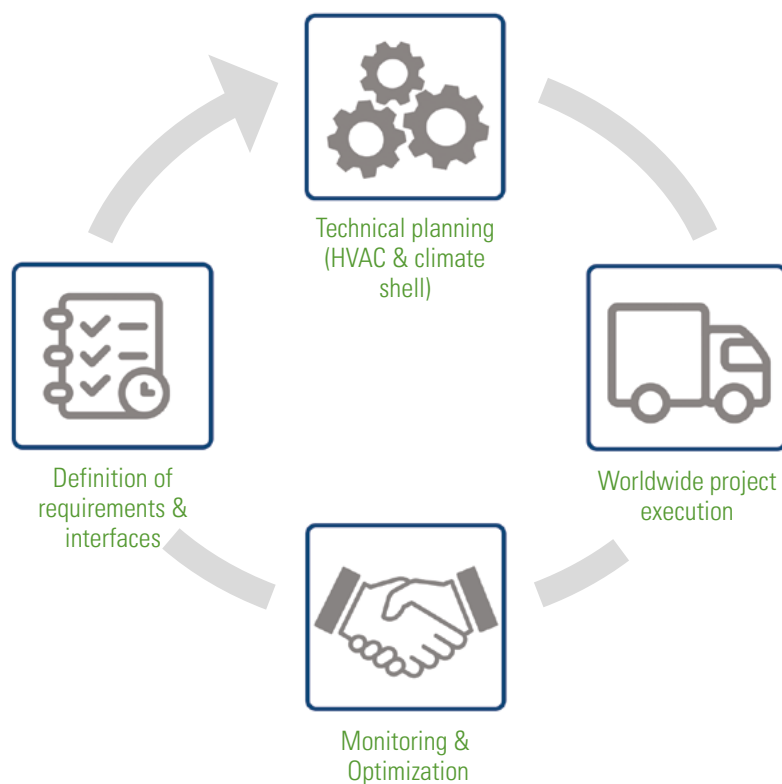
All-in-one service provider for controlled areas for indoor growing

Definition of requirements & interfaces

- Optional needs-based consulting and design
- Technical execution planning for controlled areas
- Individual project consulting from the start by a personal project manager
- Individually hand-picked project team

Technical planning

- Development of individual solutions based on modular Viessmann components and precise technologies
- Certified “Made in Germany” quality
- Modular design for fast and easy assembly and flexible adjustments



Worldwide project execution

- Professional employees with practical experience and our logistics partners ensure fast and seamless delivery processing
- Our experienced assembly teams quickly install premium clean rooms with consistent quality around the world
- Expert in handling a project from logistics packaging and customer clearance

Monitoring & Optimization

- Reliable measurements, evaluation and documentation
- Complete verification of physical parameters
- Professional commissioning and handover
- After sales and spare parts

CO₂ and resource-saving, pesticide-free plant cultivation and research

Plants are part of the foundation of our lives and research on them is the engine of bio-economy. The research of crops, and their cultivation under optimised, simulated conditions, has been the focus of the field of indoor growing.



MIDSIZE AND MEGA FARMS

The indoor vertical farm is a large indoor vertical farm that can produce fresh vegetables for retailers, supermarkets, restaurants and hotels. It creates growing space in city centres where space is limited or in regions where farmland and water are scarce.



GROW TOWER

A fully integrated, stand-alone installation that comprises lamps, trays and plant delivery mechanisms for an in-market solution.



CLEAN ROOM GREENHOUSES

Viessmann is a reliable and experienced partner when it comes to the controlled cultivation of plants, their temperature-controlled temporary storage, analysis and further processing. Viessmann Technologies designs and produces clean air-supplied controlled greenhouses, laboratories up to BSL 3 and clean rooms according to EN- ISO 14644 and EU GMP guidelines.



Can food retail help to solve the world's growing need for food?

Viessmann is rethinking agriculture by helping food retailers become food farmers.

In 2050 there will be 9.8 billion people living on our planet with 6.4 billion of them living in urban cities. Currently there are 7.3 billion people consuming 1.6 times what the earth's natural resources can supply and that combined with the shortage of farmland and water is challenging farmers to find new solutions to produce vegetables.

Growing food where people live

Vertical farming solutions build farms into city centers where space is limited. Their farms grow lettuce and greens in vertical layers. Unlike a typical greenhouse, salads and herbs are not exposed to natural light. Instead, the growing process takes place in several layers under LED lights in optimized conditions.

No bad harvest or pesticides

From the vertical farms, the greens and living salads are transported directly to the food retail stores. There are no middlemen and there is no cooling chain whatsoever. Delivering directly to the food retail stores ensures the salads' nutrients and flavour are not ruined.

Harvesting at the store

Harvesting on demand combined with short distance transportation makes it possible to maintain the greatest possible freshness of salads and greens.

In the retail store, the greens are displayed with the trays in specially refrigerated cabinets from Viessmann. The cabinets maintain the ideal conditions (temperature, lighting and humidity) where the salads continue to grow for another 3-4 days. At home, consumers enjoy high-quality greens, rich with flavour and freshness.

BENEFITS:

- + Hyper local
- + 60% less fertilizer
- + 90% less water
- + 0% pesticides
- + No bad harvests
- + No waste or drop on nutrients
- + Greens rich with flavour and freshness

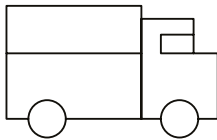


7 steps of indoor farming for food retailers



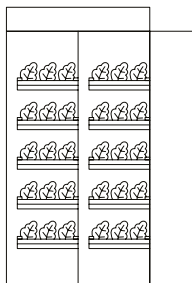
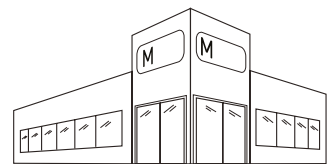
Salads are grown in a fully automated, controlled environment farm built in a logistic center or warehouse. Year-round, with no pesticides or bad harvests. Salads grow on average 19-22 days.

Living salad is placed with its roots intact onto a recyclable tray filled with water and continues to grow.



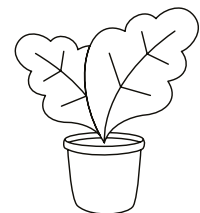
Living salads are delivered from the farm directly to the food retail stores. No middlemen or cooling chain whatsoever.

Direct delivering to the food retail stores ensures the salads nutrients and flavour are not ruined.



Salad trays are displayed in specially designed cabinets that provide ideal conditions for a longer shelf life. Salad growth continues for another 3-4 days.

Consumers pick their fresh salad directly from the cabinet. The salad's roots remain intact with no waste or nutrient drop.



The living salads continue to grow even at home where the consumer is able to enjoy the most delicious, fresh, and nutritious harvest on demand salad.

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