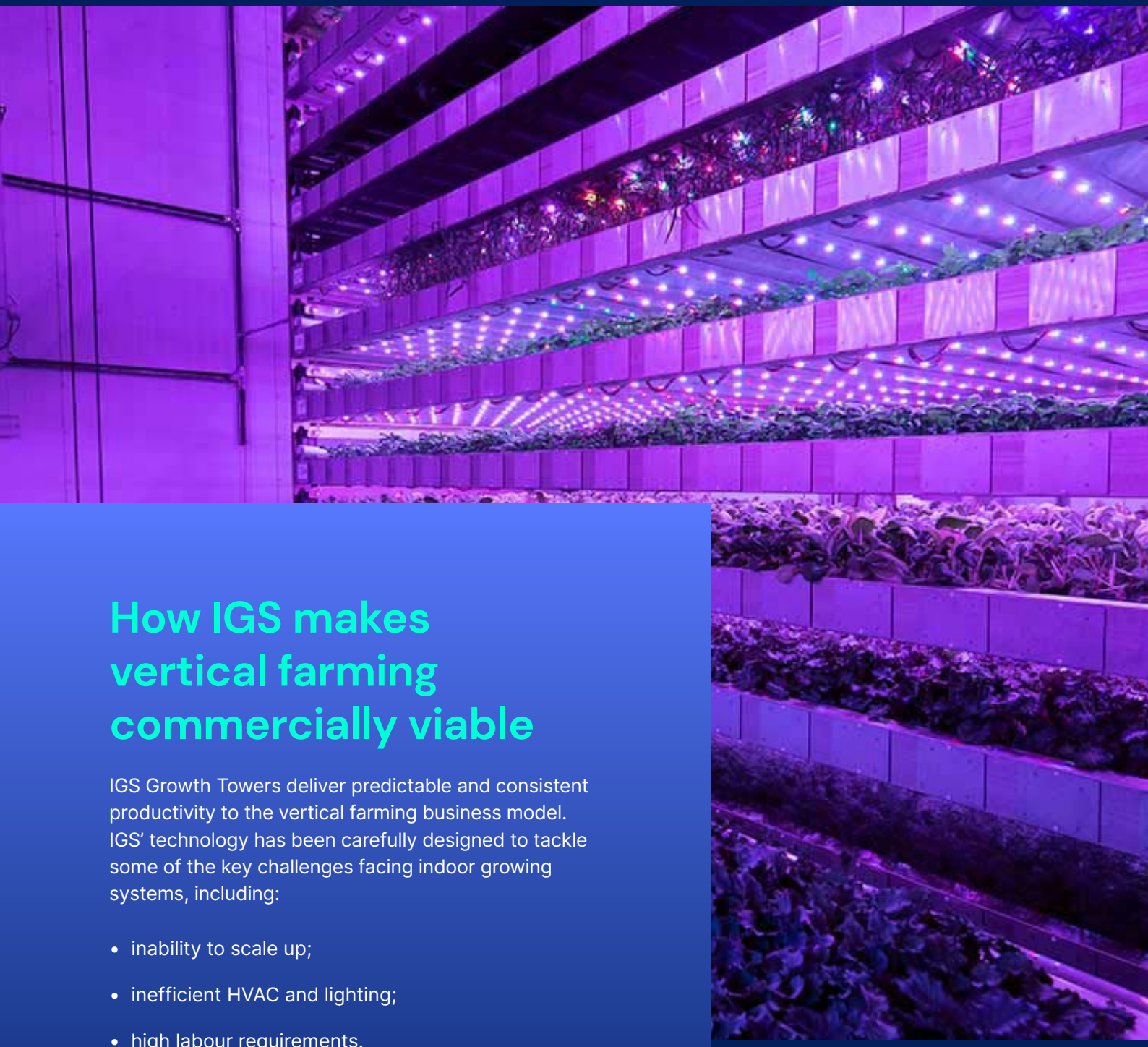
Intelligent Growth Solutions



How IGS makes vertical farming commercially viable

IGS Growth Towers deliver predictable and consistent productivity to the vertical farming business model. IGS' technology has been carefully designed to tackle some of the key challenges facing indoor growing systems, including:

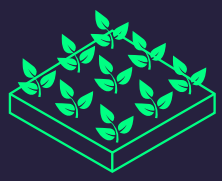
- inability to scale up;
- inefficient HVAC and lighting;
- high labour requirements.

IGS' Total Controlled Environment Agriculture (TCEA) overcomes these challenges and more while enabling productive, predictable and consistent results.

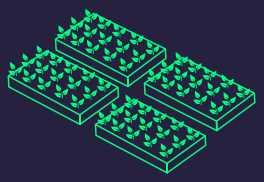
Commercial capabilities at a glance

- Growth Towers deliver the crops and volumes your off-takers want, all year round, at any location.
- Two to three times higher yields than greenhouse or open field farming systems despite operating on a footprint of just one per cent of a hectare.
- Scale up production while keeping energy and labour costs commercially sustainable through our patented extra-low voltage power distribution and automation platform.
- Build additional Growth Towers to expand growing capacity and benefit from economies of scale.
- With our Cloud-based software, you can programme near-infinite combinations of spectra distribution, intensity and photoperiod to offer the best results for the highest efficiency, regardless of crop type.

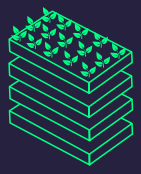
TCEA starts with our Growth Towers



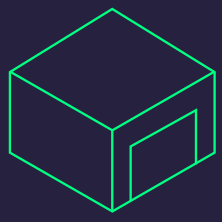
1. Take a field



2. Cut it up into 6.05m² trays



3. Stack these 6m, 9m or even 12m high



4. Put two stacks of trays in a superstructure

5. Create the proper growing conditions inside

6. Control it with your tablet or computer

Read on to discover how TCEA delivers commercial viability.

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Built with your business growth in mind

Growth Towers are available in 6 m, 9 m and 12 m heights. One 9 m Growth Tower, for example, has a 41 m^2 footprint and a maximum growing area of 375 m^2 (with 250mm GTL spacing). A 12 m Growth Tower has the same footprint, but delivers a maximum growth area of 520 m^2 (with 250mm GTL spacing).

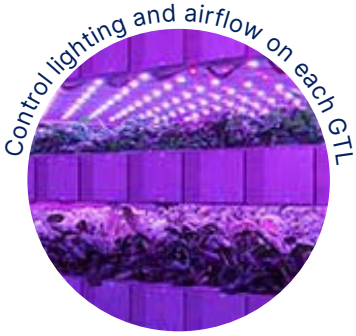
IGS recommends a minimum of two Growth Towers per site. For a two-tower site, for example, an area of 6 m x 4.5 m is recommended for both the airlock and central handling. An additional 30 per cent of land should be allocated for preparation, harvesting and packing. Combined, this creates a total site footprint of around 282 m^2.

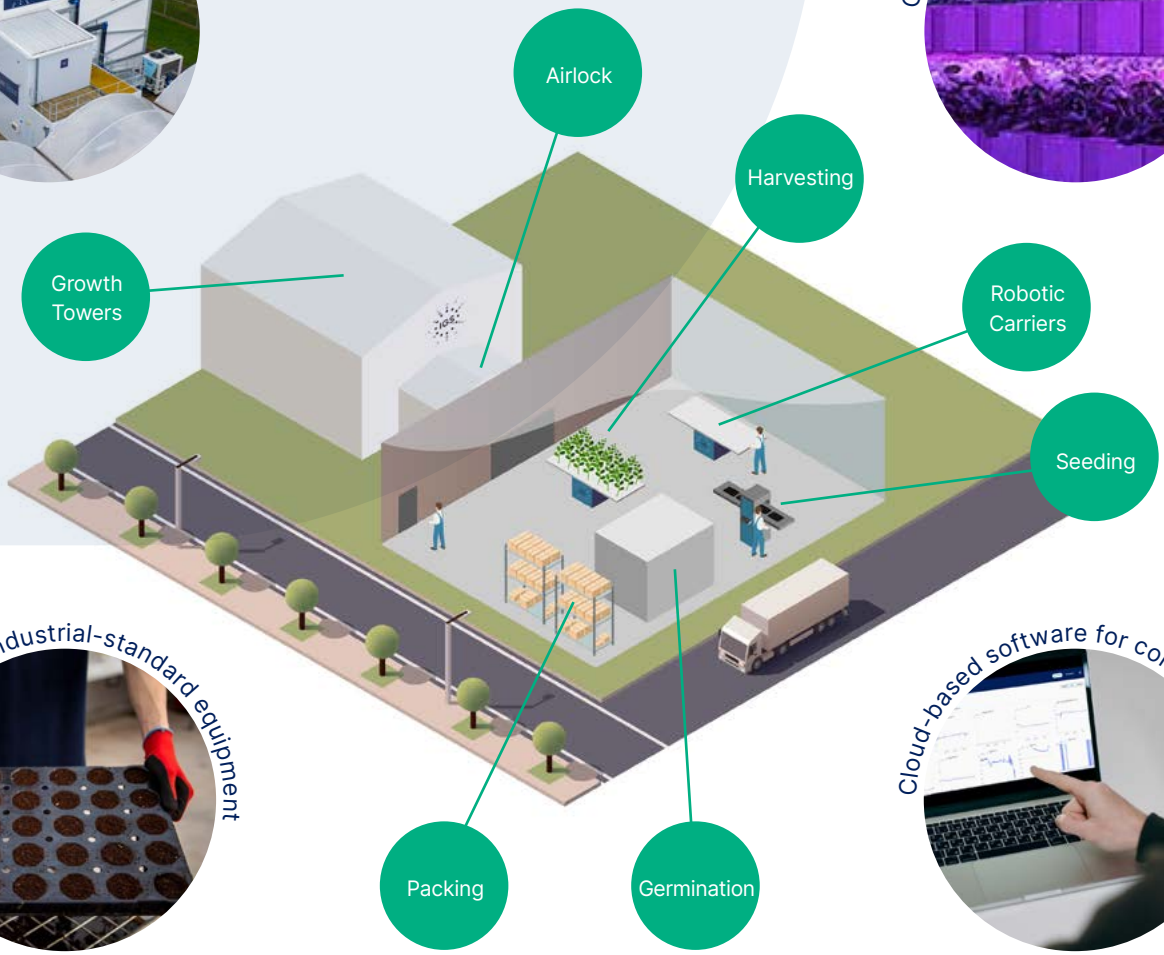
There is no limit to the number of Growth Towers you can build, however. The system is modular and can scale up as your business grows.

Optimise crop production

Multiple crops at different stages can be grown at the same time within each Growth Tower. You can also grow different crop types or varieties in a Growth Tower. This flexibility is possible with patented crop-specific lighting spectra and airflow on each GTL. Our fertigation dosing system ensures the correct level of nutrient solution is delivered to the crops when needed. These systems work harmoniously to delivery consistent and predictable crop uniformity.

The IGS GTMS (Growth Tower Management System) Software as a Service (SaaS) deploys Growth Recipes designed to ensure consistent yields, flavour and nutrient content for one crop cycle or all year round. Cameras enable monitoring of growth activity and data capture for crop analysis.





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Save on labour

Our patented tower automation platform offers an environment that minimises human involvement. The IoT-managed system utilises Cloud-based software and a web-based app to provide all scheduling, monitoring and plant nurture.

Energy efficiencies

IGS uses a process of photon optimisation which is basically giving the plants only the required lighting frequencies for the growth stage. This also reduces power requirements. Our LEDs are multi-spectra but use narrow wavelengths rather than a broad range of frequencies which consume more energy and produce wasted light.

From seed to packing

Growth Towers are automated and the design has scope for integrating third-party machinery and manual or robotic processes for sowing, harvesting and packaging. Industrial-scale farms can integrate GTMS with a Cultivation Management Platform to ensure traceability, seamless compliance and recall protocols.

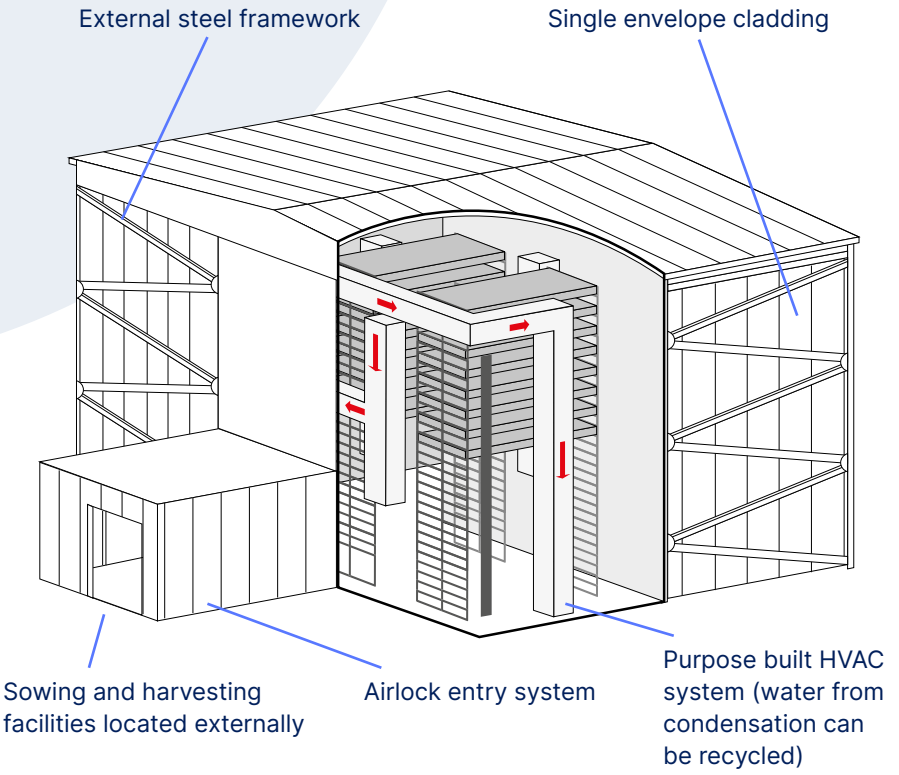
Grow in different environments all year round

The modularity of our solution enables production in an urban environment or on non-arable land at an industrial scale.

Freestanding Growth Towers or those fitted into buildings both require our standardised superstructure.

Automation

GTLs automatically move between slots in the racks as part of the GTMS' Growth Recipe. Robotic carriers can transport the GTLs into the handling areas for harvesting.



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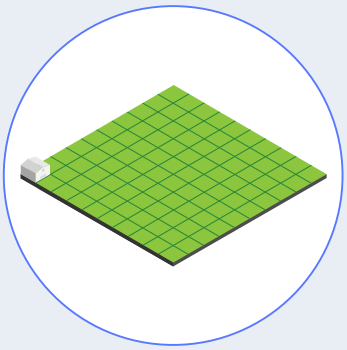
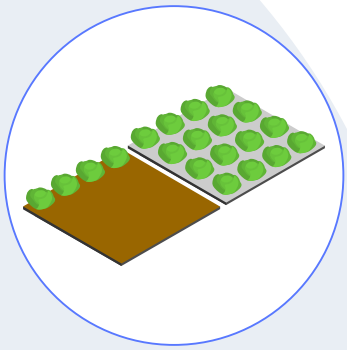
Growth Tower productivity compared to greenhouse and open field farming



Open field comparison

Growing area for two **12 m Growth Towers** (431 m^2 typical each, total footprint 107 m^2) with 12 crop cycles each is the equivalent of up to **one hectare of land** (10,000 m^2, one crop cycle).



2-3x yield (compared to greenhouses)

Our platform enables all year-round production with predictable and consistent results. Continuous monitoring and improvements to our Growth Recipes increase yields and quality even further.

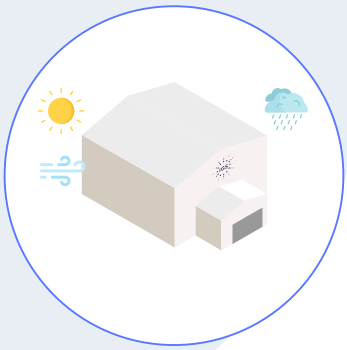
Growth cycle examples

- Growth period days under lights
- Micro leaf 3 to 8 days
- Baby leaf 14 to 30 days
- Herb 13 to 38 days
- Lettuce (head) 30 to 50 days

Up to 50% less labour[i]

Automation safeguards biosecurity by reducing or eliminating the risks from hands-on management.

Automation in the Growth Tower reduces labour requirements and minimises disruption to crop growth, thereby creating a consistent environment.



Total control over climate variables

IGS' solution removes all unpredictable external variables to create a predictable and repeatable growing environment. We call this **Total Controlled Environment Agriculture**.

Our software deploys growth recipes designed to ensure consistent yields, flavour and nutrient content, whether it's for one crop cycle or all year round.

98% less water compared to open field production[ii]

Compared to smart greenhouses our Growth Towers use 73 per cent less water per kg of lettuce[iii]. IGS' fully automated water and nutrient dosing system is integrated, meaning that the only water leaving the facility is in the crops themselves. In the absence of independent trials on an IGS farm, we reference scientific and academic research.

i. Kozai et al (2022) Plant Factory Basics, Applications and Advances. Page 78. Elsevier

ii. Barbosa et al, 'Comparison of land, water, and energy requirements of lettuce grown using hydroponic vs. Conventional agricultural methods', International journal of environmental research and public health, vol. 12, no. 6, pp. 6879-6891

iii. Kozai et al (2015) Plant factory: an indoor vertical farming system for efficient quality food production. Academic Press.