

# The Future of Vertical Farming in 5 Inspiring Examples

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Recent studies show that the human population will reach 11 billion by 2100, putting strain on: farming, health, living conditions and sustainability.

On 11 July 1987 there were five billion people on earth inspiring the UN Development Program to launch a special day in 1989 to highlight overpopulation.

Cities are now expanding, decreasing the countryside and farmland. This has led to innovative approaches such as vertical farming to deal with land shortage.

## **#1 Urban Crops: Belgian Company Specialising in Indoor Growing Systems**



Photo Credit: Urban Crops

Inspired by the US and Asia's growing investment in robotized plant factories with artificial lighting (PEAL), Belgian-based **Urban Crops** began creating a huge automated plant factory inside a climate chamber.

With 30 towers, a production of 126,000 crops per day is maintained. The crops use RFID technology in the crates where robots can pick the crates from a conveyor belt and understand in what state the crops are in, handling them accordingly.

They have three concepts: the large Plan Factory, Farm Flex and Farm Pro. The two latter examples are smaller in scale and focus on efficient food production, particularly in urban areas.

## **#2 Plantagon Agritecture and Sweco Architects**

**Plantagon Agritecture** and Sweco Architects have a project called 'World Food Building' in Linköping, Sweden, which is a 16 stories tall "plantscraper."

Specialising in Urban Agriculture and Industrial Vertical Farming, Plantagon has developed a vertical space-efficient greenhouse for cities, delivering locally grown organic food directly to the consumer.

The company hopes to make headway in the Asian market:

"Asia is the main market for our solutions. In a dense city environment access to land is extremely low and the price is extremely high. This is something that is especially true in Singapore, but also in other mega-cities around Asia."

### #3 Elon Musk Building Vertical Farms in Brooklyn, New York



Elon Musk and Tobia Peggs launched Square Roots, a vertical urban farm using shipping containers to invest in young farmers and sustainability.

The farms will include greens and herbs for young entrepreneurs to “get hands-on experience running a vertical farming business,” said Peggs.

Using technology from vertical farming startups Freight Farms and ZipGrow, Square Roots plans to use LED lights and water growth rather than soil.

### #4 Aerofarms: World’s Largest Vertical Farm in Newark, New Jersey



Photo Credit: AeroFarms

The largest vertical farm is **Aerofarms**, a 14,164 square meter facility in Newark, New Jersey, run by Aerofarms. The farm has the potential to produce 2 million pounds of lettuce every year, without soil or natural sunlight.

By using LED lights, this ensures consistent growth in the 69,000 square foot warehouse.

In November Aerofarms will partner with Farmigo, the organic wholesaler to sell greens in grocery stores within New York.

### **#5 Sky Greens, Singapore**



Photo Credit: Sky Greens

**Sky Greens** is a vertical farm three stories high in a greenhouse that produces five to 10 times more per unit area compared to normal farms. The greenhouse and low-carbon hydraulic system grows lettuces and cabbages year-round.

Their mission is to provide improved agricultural solutions with minimal impact on land, water and energy resources, help cities with food supply security and to promote low carbon footprint agriculture into urban living.

**Do you think vertical farming is a long-term solution to land shortage, or is the rate of over-population putting strain on all types of farming?**

(Source: <http://dispatchweekly.com/2016/10/future-vertical-farming-5-inspiring-examples/>)