



# FOXCONN ADOPTS ORGANICA REUSE SOLUTION TO CREATE URBAN GREEN SPACE

## Commercial Wastewater Treatment – Shenzhen, China

### CHALLENGE

Foxconn Technology Group is the world’s largest electronics manufacturer, assembling products like Apple iPhones and iPads, Sony PlayStations and Microsoft Xboxes. One of their largest manufacturing plants is in Shenzhen, China, a modern city with a population of over 10 million people and thousands of workers living directly adjacent to their work, making space a premium. Foxconn’s Shenzhen plant employs more than 200,000 workers, living in the same densely populated community where they work. Previously, the wastewater of the company’s office complex was discharged directly to a nearby river. In accordance with new national regulations however, the site needed to provide wastewater treatment to meet the business park’s need to produce clean, reusable water.

**Scarce space is no problem for the Organica Solution**

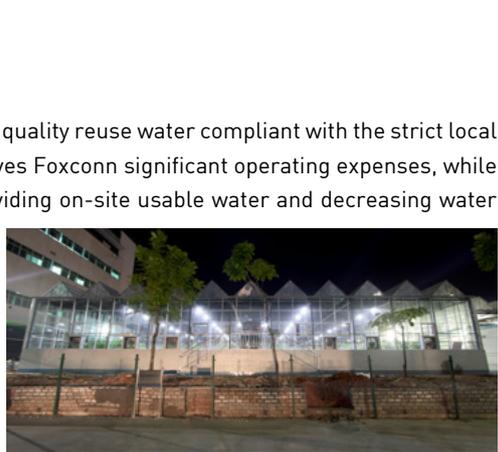
### RESULT

Since 2010, the treatment facility has produced high quality reuse water compliant with the strict local regulations. Its efficiency and low staffing needs saves Foxconn significant operating expenses, while the reclaimed water is used in cooling towers, providing on-site usable water and decreasing water costs. Apart from efficiently solving the park’s wastewater treatment requirements, Organica’s greenhouse design also creates a friendly space in the midst of concrete and manufacturing plants, improving the living conditions for Foxconn’s workers with a lush addition to their otherwise highly urbanized neighbourhood.

### SOLUTION

Foxconn opted for the Organica solution as it perfectly satisfies the water quality standards for reuse while offering large capacity in an exceptionally small footprint.

Additionally, it provides odourless operation in an aesthetically pleasing greenhouse enclosure, eliminating “psychological” footprint, which is a significant issue with conventional approaches. These advantages make Organica an ideal wastewater treatment solution in the dense urban environment. An Organica facility also offers excellent automation and operational efficiency, greatly reducing downtime and energy consumption, while requiring minimal staff to operate.



“Not only is Organica’s plant flexible enough to fit in a highly dense urban environment, it also provides cutting-edge technologies for quality water treatment. Their approach to Nitrogen removal is superior to any existing technological solution.”



**Mr. Wen**  
Shenzhen Environmental Engineering and Science Center

**Location**  
Shenzhen, China

**Project Scope**  
Municipal WWTP design-build

**Operational since**  
2010

**Footprint**  
975 m<sup>2</sup> (10 500 sq ft)

**Hydraulic Capacity**  
3 000 m<sup>3</sup>/day (794 000 gallons/day)

**Community Served**  
18 000 people

## THE ORGANICA SOLUTION

Organica Water is a global provider of innovative solutions for the treatment and recycling of wastewater. The Organica solution is an Integrated Fixed-Film Activated Sludge (IFAS) system utilizing a fixed-bed biofilm that grows on root structures, all housed in a compact, odourless, botanical garden-like facility. The resulting solution offers a significantly reduced physical footprint, zero “psychological” footprint, and lower operational and infrastructure costs when compared to other activated sludge-based wastewater treatment solutions.



**Cost savings on CAPEX**

» Reduced civil costs



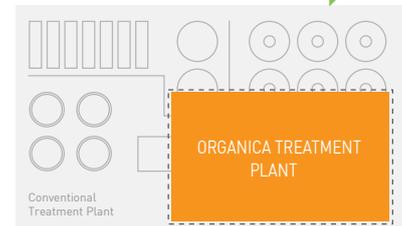
**Cost savings on OPEX**

» 30%+ lower energy consumption  
» 30%+ less sludge production



**Footprint Savings**

» 50-75% smaller geographic footprint



**PERFORMANCE SUMMARY OF THE FOXCONN FACILITY**

Parameter	Influent (mg/L)		Effluent (mg/L)	
	Design	Actual	Limit	Actual
COD	400	420	50	26.3
NH <sub>4</sub> -N	30	36	5	3.3
TN	-	55	15	8.6
TP	6	6.5	0.5	0.2
TSS	250	224	10	9.5

2010-2011 averages from monthly spot samples

## RELIABLE AND RESILIENT

As a result of their unique ecological diversity, Organica facilities are not only able to meet the strictest effluent limits, but also are highly resilient to changes in influent conditions. This is especially important where industrial flows can unpredictably mix with municipal flows and threaten biological processes. The enhanced diversity of the Organica solution means the system can adapt to rapid spikes in influent much more effectively than other approaches. And because almost all of the biomass is fixed on root structures, oxygen transfer is much more efficient, resulting in significantly lower energy requirements. All of these benefits make the Organica solution ideal for nearly any application.