



EVALED

**Photovoltaic &
microelectronics**

LCD screens | Taiwan

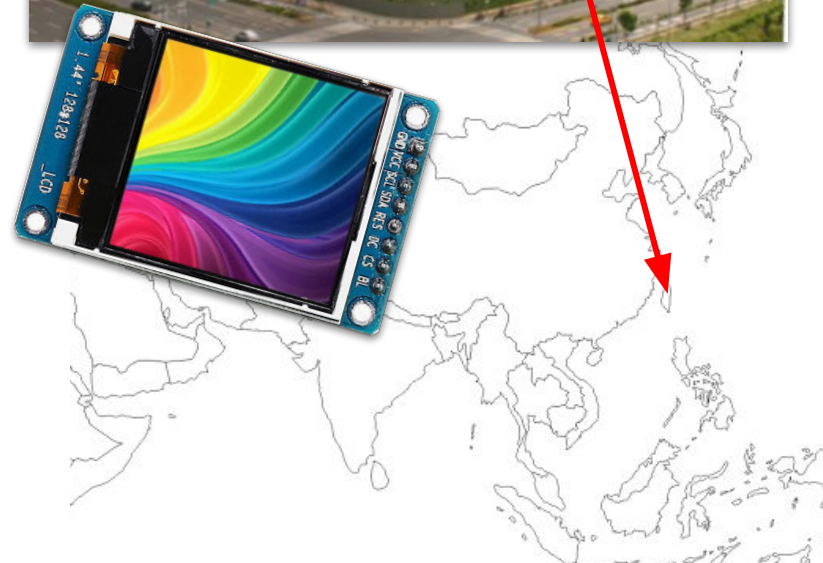
LCD screens

Customer

The Client is a global leader manufacturer in Taiwan specialized in optoelectronics and it produces TFT-LCD panels and all kinds of display applications.

Customer's needs

The Client has acquired the ISO 50001 energy management certification and the ISO 14045 eco-efficiency assessment. In addition the Client is targeting a 25% reduction of carbon emissions in all its premises by 2015 and needs to achieve a relevant reduction in sludge production and relative disposal costs, complying with the local environmental legislation.

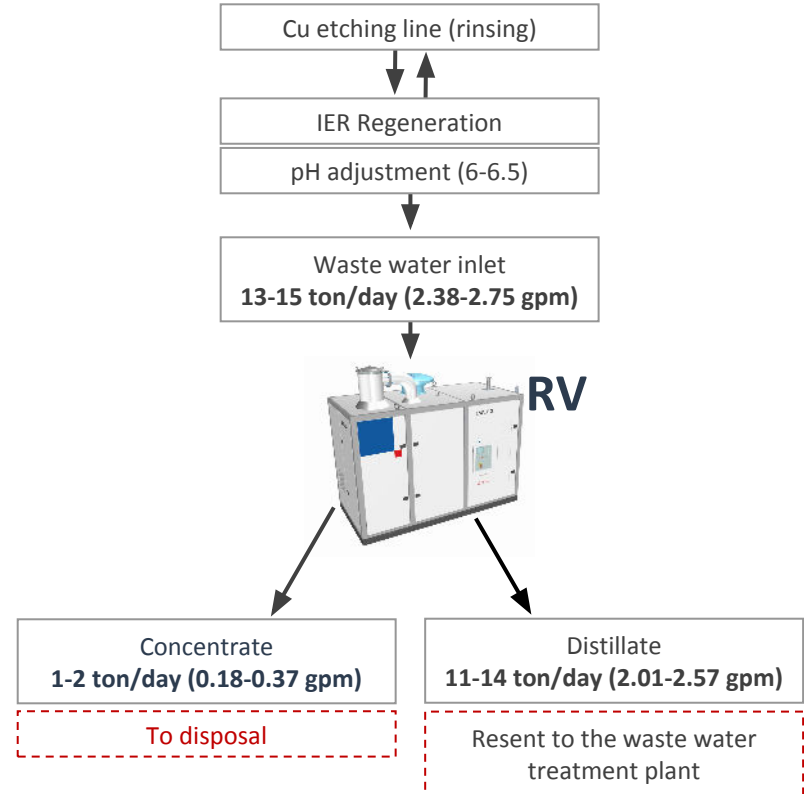


The plant | 1st production site

Analysis and Plant Process Diagram

Parameters	u.m.	Waste in	Distillate out	Concentrate out
pH		6-6.5	9	-
Conductivity	μS/cm	<35,000	<900	-
TS at 105°C	%	0.6-5	-	30
Chloride	ppm	<400	<10	-
Ammonium	ppm	1,000-9,000	<50	-
Copper	ppm	4,500	<10	-
Sulphates	ppm	9,000	<10	-

Technology Type	Material	Footprint (m ²)
RV F 15 AA	AISI 316	10.5

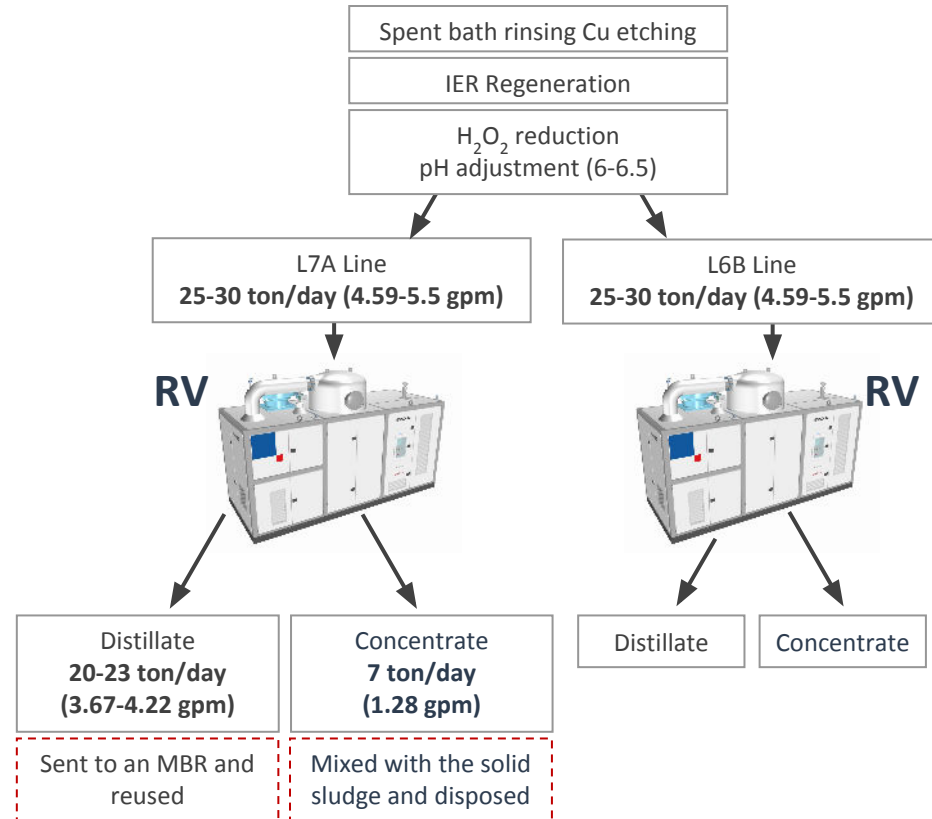


The plant | 2nd installation: 2 production sites

Analysis and Plant Process Diagram

Parameters	u.m.	Waste in	Distillate out	Concentrate out
pH		6-6.5	9	-
COD	ppm	80,000	<4,000	-
Conductivity	μS/cm	<50,000	<500	-
TS at 105°C	%	9-11	-	30
Chloride	ppm	<500	<10	-
Ammonium	ppm	500-15,000	<10	-
Copper	ppm	6,000	<10	-
Sulphates	ppm	6,000	<10	-

Technology Type	Material	Footprint (m ²)
2 x RV F 30 AA	AISI 316	2 x 14



Results

Water separated: 70-90%
Concentration factor: 4-10 times



The solution achieved:

- 70-90% distillate recovered and reused in the production process (water reuse);
- sludge and disposal cost reduction.

Pay-back: 1 year

