

CASE STUDY: Surface capacitance design

INDUSTRY	Chemical Plant
PROJECT NAME	Surface capacitance design
PRODUCT TYPE	Proof of Concept prototype
DESCRIPTION	By manufacturing and storing certain chemical fluids it is imperative to measure the transported or stored fluid's chemical consistency throughout the entire cross-section of the pipe or depth of the storage container. It is also imperative to deploy a probe that is using the absolute minimum depth "learning" the fluid's consistency. The existing probes used by our Client needed 9.7% of total depth from the bottom of the probe to safely learn the fluid's consistency. The project was to decrease the 9.7% as much as possible.
RESULT	After testing several different options, the university found a capacitance method that proved sufficient through computer modeling. The concept was to design the smallest possible diameter PCB with certain layout on it that is capable of determine the fluid's consistency by using surface capacitance theories. As a result, TxIS was capable of decreasing the necessary fluid depth from 9.7% to 0.3%.
DURATION	10months

File DOC-10 / Surface capacitance design

