

Case Study

How faytech's interactive display added value to **NEC's** bus projects in Saudi-Arabia, Mexico and Azerbaijan

Introduction

NEC has projects all over the world, for all kinds of applications and industries. Once there was a built-up of projects regarding digitally transforming several fleets of busses in different countries, they decided to proceed and look for a suitable hardware partner to support with this request. These requests came from clients in several parts of Saudi-Arabia, Mexico and Azerbaijan.

With a long list of customer requirements, NEC got to finding potential suppliers and partners able to meet all the demands. At some point back in 2017, NEC reached out to faytech for a possible co-operation, and started discussions on how to realize the project together.

Eventually, faytech was able to meet all the requirements for NEC's project and the first samples were manufactured to test in the field.

Challenges and Requirements

As NEC's client had many requirements, there were quite some challenges to overcome for faytech:

- E-Mark certificate for vehicle components
- Complete IP65 solution, including the connectors. Ensuring a comprehensive dust- and waterproof device
- A high-quality device with brightness control to be used in broad daylight and at night.
- Small sized display, easily mountable and overall lightweight as it is mounted in busses.
- Ensure that there would be no power spikes or disconnects during operation of the bus
- Solution must be operatable with a remote controller

NEC Implemented faytech's 10.1" Interactive display for the following reasons:

- Giving the bus operators and drivers a better visualization tool during their shifts, with information such as routes, stops, time and more
- Easy-to-use gadget for clocking in and scanning employee badges
- A solid IP65 solution, able to withstand the bumpy roads and operate during driving, without the fear of disconnecting
- Display that can be visible during broad daylight or night shifts by automatically adjusting the brightness

faytech's 10.1" DDU Touch Monitor Solution

After discussions with the team at NEC regarding the client requirements and problems, faytech decided to design and manufacture a completely customized solution.

The decision was made to use the 10.1" touch monitor as a base as it fit nicely inside of the bus, while still having a decent screen size to present the information. Afterwards, the internal re-work of the device had to be done, this included the display-, LED driver-, touch controller board to be updated, and the power converter-, touch keypad board and FFC converter board to be added.

The complete solution was then built to meet all the specific requirements.

faytech's 10.1" DDU Touch Monitor

Housing: IP65 Aluminum case
(including connectors)
Mounting: VESA 100 mounting holes
Display: faytech's 10.1" Capacitive Touch Monitor (optically bonded)

Connectors: HDMI
3-pin RS232
4-pin DC-In (9~36V)
5-pin RS485

Certificates: CE, FCC, CCC, E-Mark

Additional Peripherals:
- Integrated RFID card reader
- Built-in light Sensor
- Built-in sensor for remote controller
- Integrated power converter
- Touch pad for volume control
- Touch pad for brightness control

Additional Accessories:
- Remote controller









“The customized touch display from faytech was spot-on perfect for the displays within our clients busses, it did what it was supposed to do and more!”

- Brian Foo, General Manager
NEC Hong Kong Limited

The Benefits & Results

With the sample stage being completed in 2018 and mass production in 2019, over 2,500 busses have been equipped with faytech's touch monitor. The benefits have been shown for the bus drivers and management level.

Bus Drivers
Less mistakes - faytech's 10.1" DDU touch Monitor is perfect as a visualization tool, but also to ensure the employees ensure to clock in and out. The device can be limited in displaying the complete system when the employee badge is not scanned.
More tools available - With the interactive display available within reach of the driver, it is easy to check the time, map, stops, route, contact with and any other required information in the system.

Management
More reliable data management - By using the interactive device, the overall available data is considered more reliable, as less frequent and 'obvious' mistakes are avoided by the drivers and operators of the bus.
Faster reports in the system - The bus driver can report any issues or problems directly through the interactive display, ensuring any status updates are immediately implemented in the system and visible to the office.

"faytech and NEC are cooperating since 2012 together in the field of transportation and automatization. faytech's team is dedicated, highly professional and always ready to support on short notice, if the need arises. Their true core competence is in the wide range of customization possibilities, which in turn allows us to realize our very specific solutions and requirements for the transportation industry."

- Brian Foo, General Manager
NEC Hong Kong Limited

NEC Results
Implemented in 2,500+ busses
2018 - 2019

- **Increased driver satisfaction**
  There was a significant increase in satisfied drivers, as the tools in the bus were easier to handle, including stops, routes and shifts.
- **Decreased number of clocking-in & -out mistakes**
  There were significantly less issues with clocking-in and out, as it would activate the display once the employee badge had been scanned.
- **Better data tracking for management**
  As the overall information of the drivers is more accurate due to less mistakes being made, the employee hours and location is easier trackable.



German Engineering – Asian Manufacturing – Local Services

faytech specializes in the design, development, manufacturing and marketing of **Touchscreen Monitors** and **Touchscreen PCs**, while also providing Optical Bonding and **Antimicrobial Coating services**. With its roots in Germany, faytech today sells and supports Touch Monitors and Touch PCs on a worldwide basis. faytech offers German engineered products, manufactured in Asia with local service.