

# Updates on the Taipei Metro

## CoMET 2019 Annual Meeting, Paris



November 2019

# Network & New Line in 2019

Number of lines: 5 → 6

- BR Wenhua Line
- R Tamsui-Xinyi Line
- G Songshan-Xindian Line
- O Zhonghe-Xinlu Line
- BL Bannan Line
- Y Circular Line** **NEW**

Total length:

131.1 km → 146.2 km

Number of stations:

117 → 131

**Y CBTC system**

Average daily ridership

2020 expected 2.30 million

↑7.0%

2019 expected 2.16 million

↑2.9%

2018 2.09 million

**Circular Line Phase I  
Completion expected  
in December 2019**





# Evolution of Taipei Metro's AFC System

## Magnetic tickets

Issued the first one-way magnetic ticket when the Muzha Line opened on March 28, 1996.

1996



## IC card system

Taipei Metro started using IC tokens and closed the original magnetic ticket on May 22, 2007.

2002

## EasyCard introduction

Introduced the EasyCard IC system on June 12, 2002.

2007



2016

## Multiple IC tickets

Began accepting IC tickets from all four of Taiwan's major electronic ticket enterprises on July 1, 2016.

## Open payment

In December 2019, Taipei Metro will introduce open-loop payment.

2019



# Hierarchy of Intelligent Maintenance

**Collecting**

**Vehicle-TSIS**

**Wayside & Station**

**On-site**



MRT

Wenhu line

Platform Door、Escalator、  
AFC、Air-Exhauster、Switch

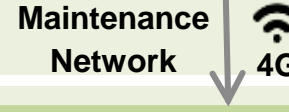
Maintenance Data

**On-board Box**

**PLC**

**Gateway**

**PDA**



**Transmitting**

**Electrical and Mechanical System Server**

**ICMIS**

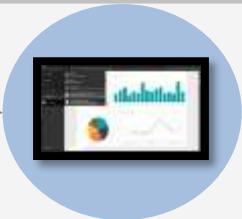
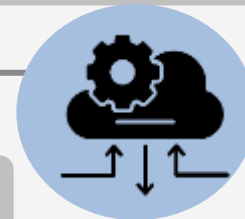
**Storage on Cloud**

**Data Analyzing**

**Monitoring  
Analyzing**



**Instant Alarm**



# Train Supervision Information System



Vehicle  
**On-board Transmitting Box**

• **On-Board**

- Brake 、 Propulsion
- Steering 、 Door
- On-board ATC
- Communication
- Aux. Power

• **Sensor**

- Temp.
- Air compressor Vibration
- Condenser Vibration
- Loading
- Brake Pressure
- Air Pressure

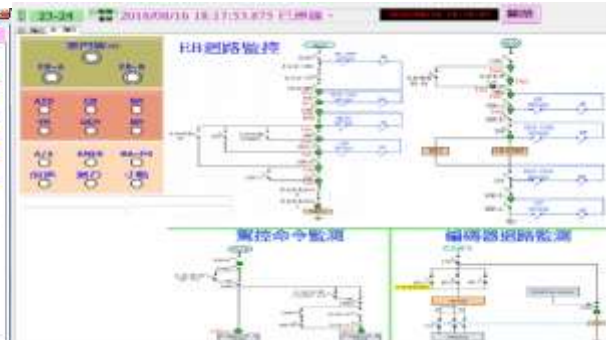


**TSIS Server**

**Dashboard**



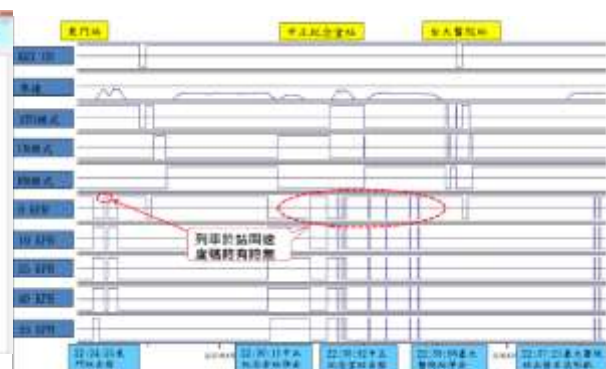
Temp of each cabinet & wheel



Circuit of signal loop



Door/Air/Brake/Pressure info.



Time sequence of each control signal

# Digital Media Ad Applications



## Shoppable Media Ads

- With AR technology, passengers can experience wearing branded clothing. Scan the QR Code with a mobile device to get the store route and a discount coupon.
- A total of 57 shoppable billboards are displayed at 44 stations across the Taipei Metro.

- Digitalize exit info on touchscreen TVs.
- Publish commercial advertisements for shops around the station.



## Digital Bulletin Boards

# Optimizing Train Arrival Information

## ORIGINAL

Train arrival information is small

To G01 Xindian  
3 min. 40 sec.  
往 台電大樓  
約 0 分 55 秒  
2019年10月05日  
17:23  
星期六  
Opening hours:  
09:00 ~ 20:00



...t force your way through the doors after the buzzer

## UPGRADE

Alternating train arrival information and advertisement on the full screen

To G01 Xindian  
3 min. 35 sec.  
2019年10月05日  
17:23  
星期六  
Opening hours:  
09:00 ~ 20:00  
Welcome

往 **G** 台電大樓  
To **08** Taipower Building

**00** 分 **55** 秒  
Min. Sec.

...r way through the doors after the buzzer has sou

# Electronic Information Display Systems

## General info.

**中山站** Zhongshan Station 14:10  
 (G14 R11)

如您遇有單獨搭乘捷運的視障旅客，請您協助引導至詢問處，站務人員將協助視障旅客乘車。  
 If you encounter a visually impaired person traveling alone, please guide them to the information counter. Station staff will assist them in embarking on the correct train.

長裙、長褲或軟膠鞋的旅客，請注

## Emergency info.

**雙連站** Shuanglian Station 12:08  
 (R12)

因系統設備異常 請避開  
**BL 亞東醫院站~江子翠站**  
 請多利用交會轉乘車站轉車  
 Due to system error, train intervals are being adjusted on the Blue Line between Far Eastern Hospital and Jiangzicui Stations. Passengers are advised to change at the next transfer station.

請多利用交會轉乘車站轉車

gum or betel nut in the Taipei Metro system.

240 displays in 117 stations



# Challenges

## Financial Burden

01



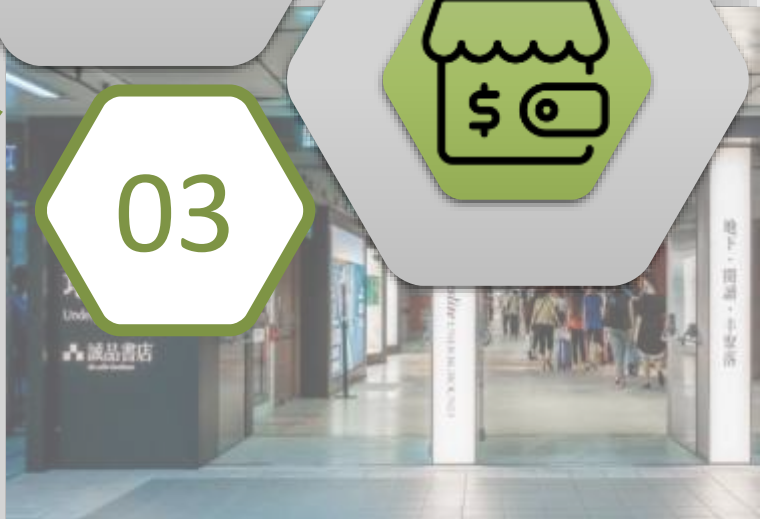
02



03

Opportunities & Challenges of Affiliated Businesses

Operation of Circular Line Phase I



# Thank You

