



BDS/GNSS Applications in Intelligent Transportation System

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Transportation status in China



144,900



3,296



27,578



14,502,200

*2017 Statistical Bulletin
of Transportation
Industry development--
Ministry of Transport
of the People's
Republic of China*



21,000

Transportation is the largest user groups of BDS/GNSS.



Current BDS/GNSS Users in Transportation



Trucks

- More than **5 million**



Buses

- About **80,000**



Official service vessels

- More than **300**



Fishing boats

- More than **40,000**



Postal vehicles

- More than **24,000**



BDS/GNSS in Road Transportation

The First BDS/GNSS Demonstration Project in Transportation



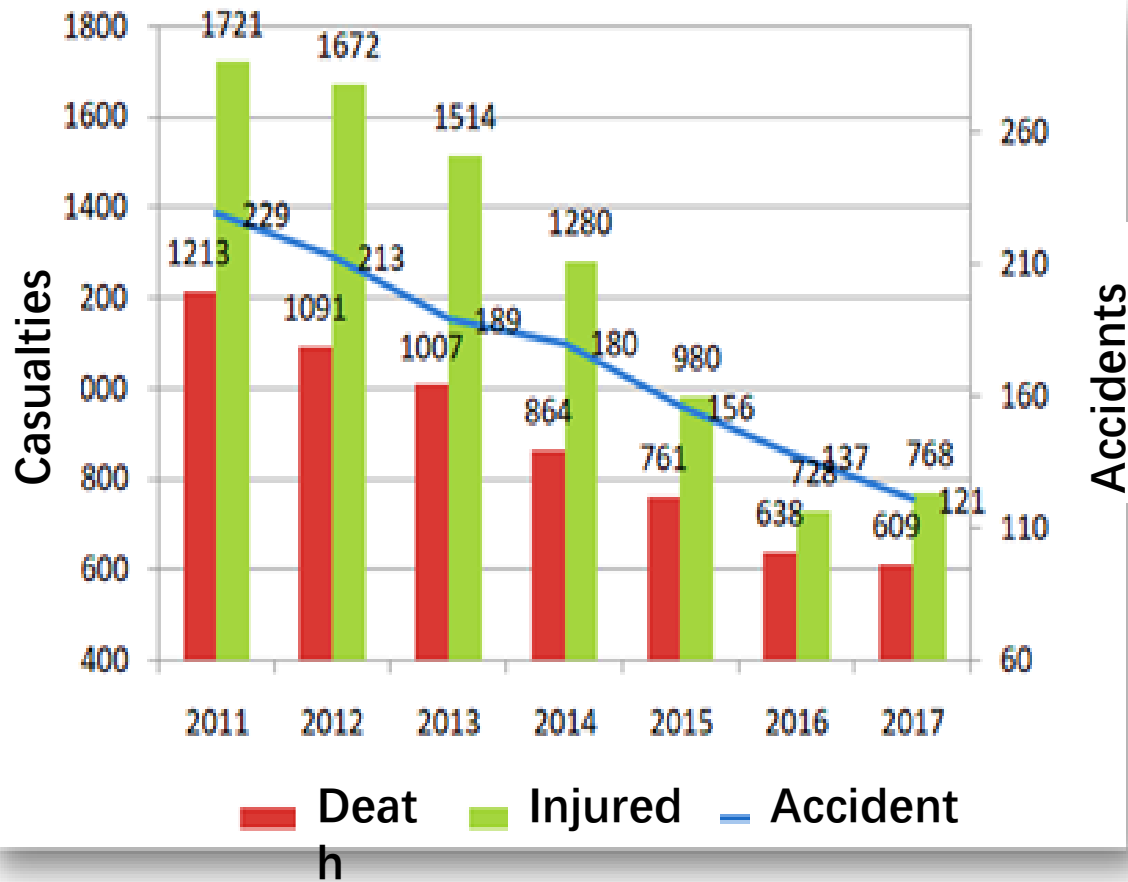
- Install BDS/GNSS terminals on vehicles
- Construct a nationwide platform
- Connect more than 5 million vehicles via internet





Using BDS/GNSS to improve road safety

Excellent achievements:



- **Deaths and injuries ratio has been decreased by 50%.**
- **Change the driving behavior to improve road safety.**
- **Drivers receive real-time traffic information.**



Using BDS/GNSS to improve maritime safety

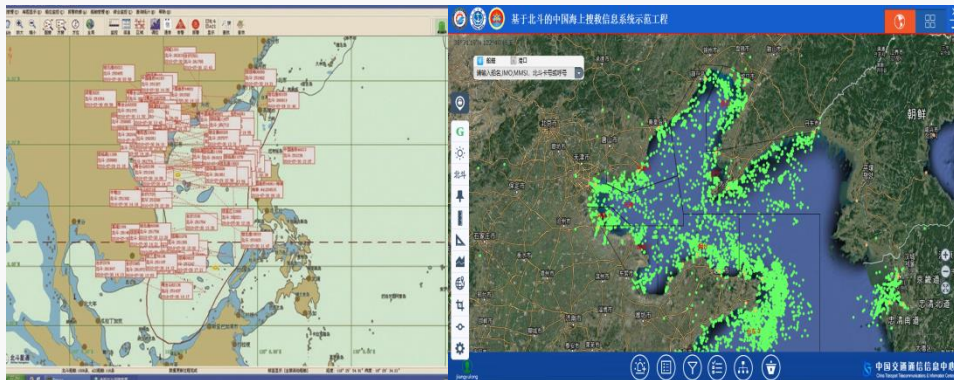
The Second BDS/GNSS Demonstration Project in Transportation



Maritime safety application



- Distribute 400,000 sets of BDS/GNSS water safety equipment, i.e. EPIRB
- 40,000 fishing boats installed BDS/GNSS for RDSS service
- Install BDS/GNSS terminals on the official service vessels
- Construct Maritime Safety Management Platform based on BDS/GNSS





BDS/GNSS Serves Railway Express

The train started from Xi'an on Sep. 16, 2017 and arrived in Hamburg, Germany on Oct. 21, 2017. The BDS signal will cover the route by the end of this year.



Hamburg



Xi'an



BDS/GNSS applications on aviation

BDS/GNSS test has been carried out on the ARJ21 aircraft.

- Airborne BDS/GNSS receiver function and performance
- Based on BDS/GNSS ground-based augmentation system to achieve class I precision approach performance test flight verification





2

Ongoing projects



Using BDS/GNSS to improve highway mobility



Using BDS/GNSS on free-flow highway toll collection



Congestions

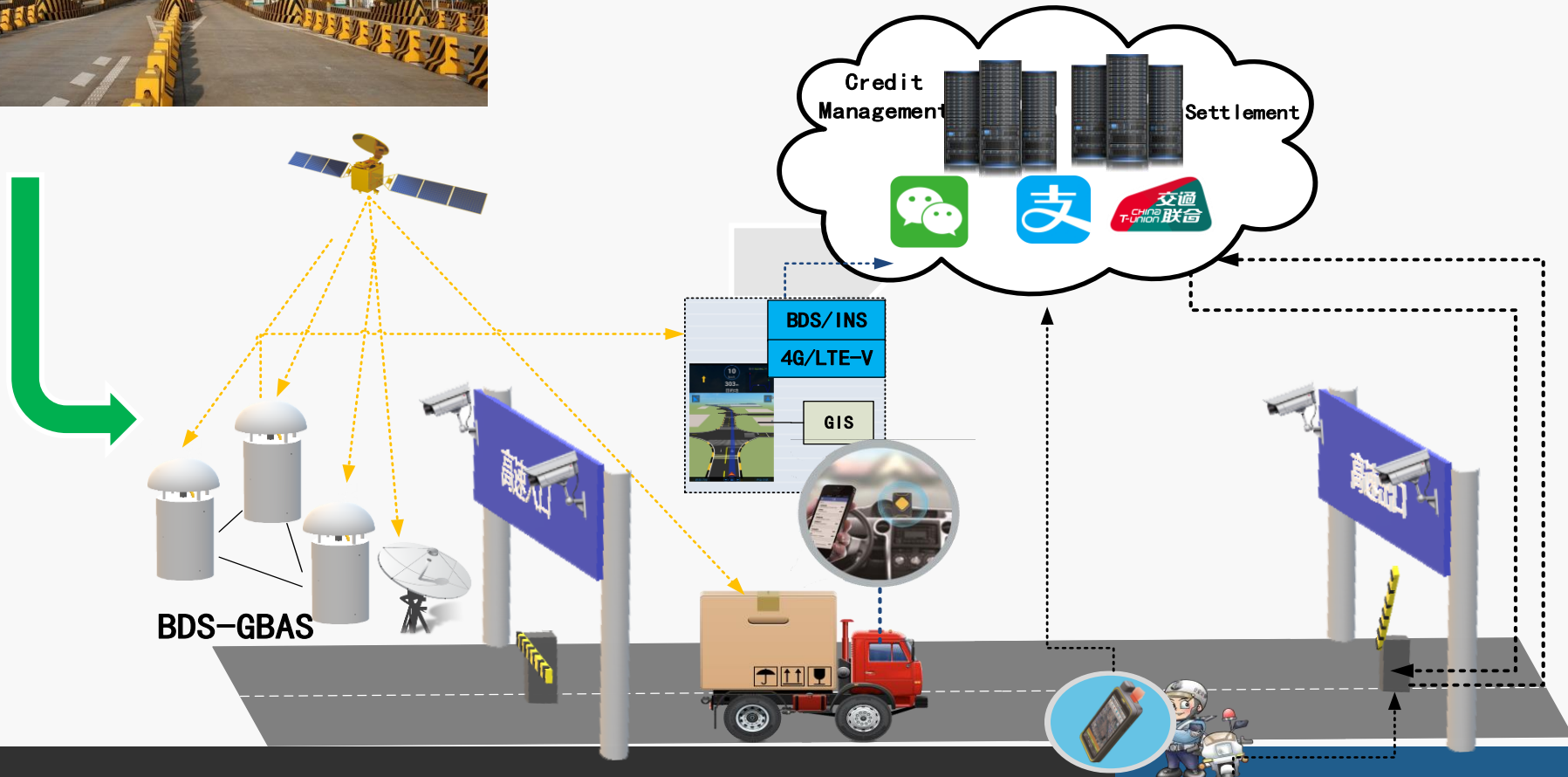
Accidents

Existed toll station problems

Current free-flow toll collection test using BDS/GNSS



Beidou Free-flow Toll Collection System



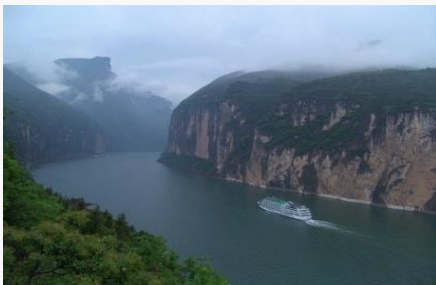


Using BDS/GNSS to serve the inland rivers



Xi River

- Ship lock infrastructure monitoring



Yangtze River

- Vessels dynamic monitoring
- Emergency management and auxiliary command
- Shipping information service



Lancang River

- Cross-border ship safety supervision

BDS/GNSS in the field of inland rivers:

- Develop and distribute **16,000** BDS/GNSS terminals
- Strive to take the lead in achieving full coverage of BDS/GNSS high-precision applications of inland river.

Promote BDS/GNSS to serve the international maritime distress management



Improve the COSPAS-SARSAT capability of the international Search And Rescue(SAR) service

- BDS/GNSS has been written into *COSPAS-SARSAT 406 MHz MEOSAR IMPLEMENTATION PLAN(C/S R.012)*.
- Will provide return link function.
- BDS MEO-SAR payloads are in orbit test now .



 2016

Proposed
BDS/GNSS into
COSPAS-SARSAT

 2017

Participated in
the 31st Joint
Committee
Meeting of
COSPAS-SARSAT

 2018

Participated in
the 59th Council,
and established a
multinational
expert group.

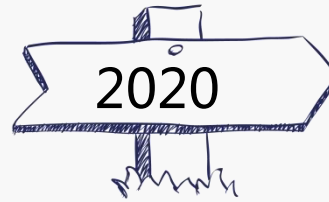
 2018

Participated in expert
group meeting to deal
with BDS/GNSS-
GALILEO frequency
compatibility problem.

BDS/GNSS in future: Mobility



An intelligent transportation system based on BDS/GNSS



Provide better infrastructure with BDS/GNSS service



To construct intelligent V2X infrastructure and smart vehicle, to improve the mobility for different transportation choices.

An aerial night view of a city, likely Nanjing, China, featuring a prominent illuminated wall and various buildings. The image is overlaid with a semi-transparent white hexagonal shape containing text. A blue-tinted binary code pattern is visible across the entire background.

2018

THANKS !
