

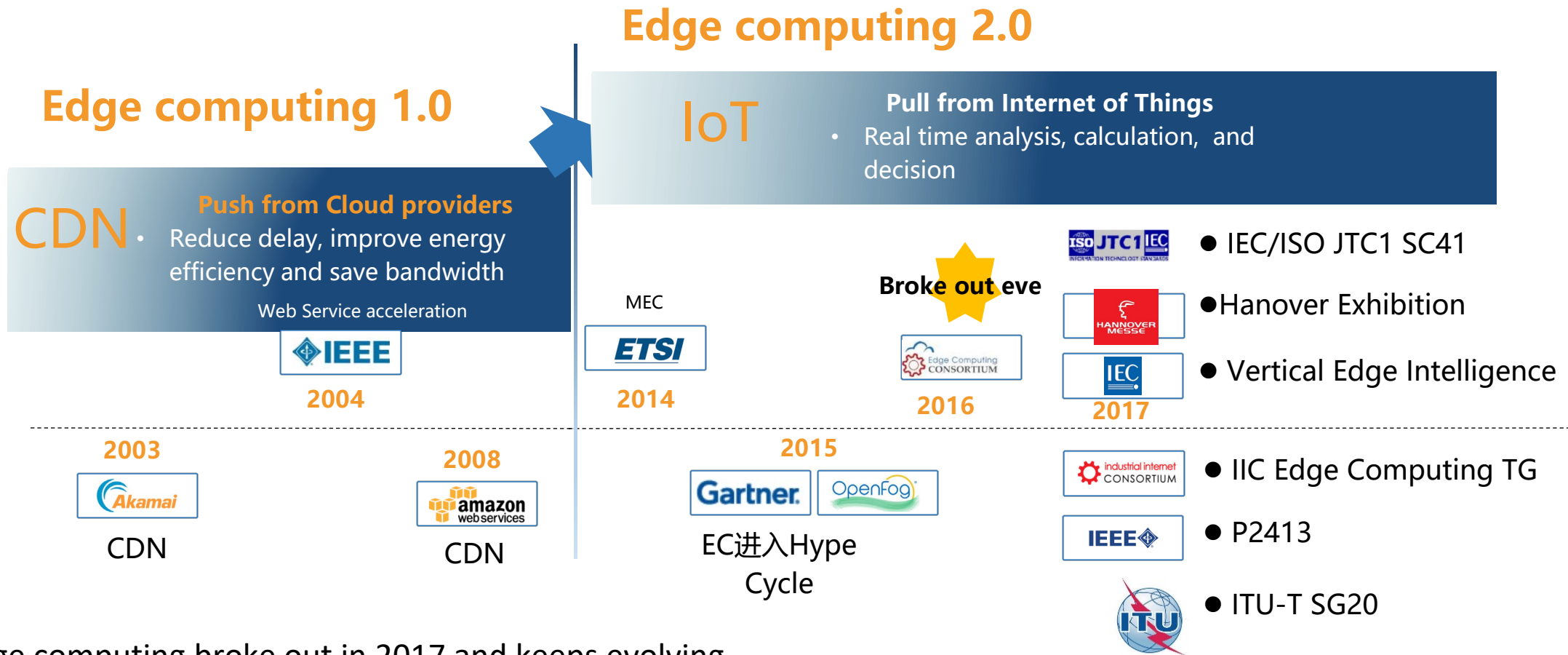
Edge computing for IoT

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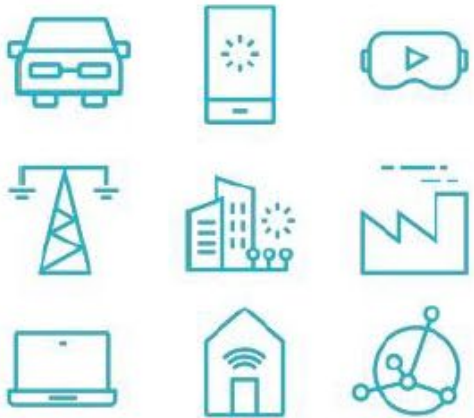
Background related to edge computing (EC)



Edge computing broke out in 2017 and keeps evolving

Scenarios

Trillion level IoT devices



Local decision making

low latency

High throughput

High security

Super bandwidth

Huge data flow



Filtering and processing

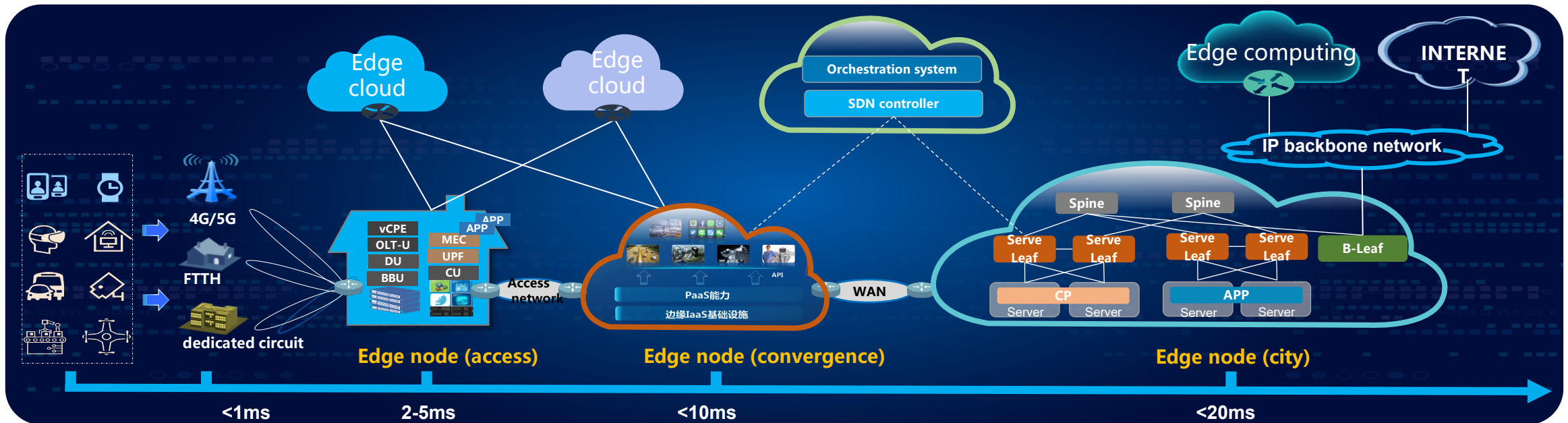
Key data



Analysis and storage

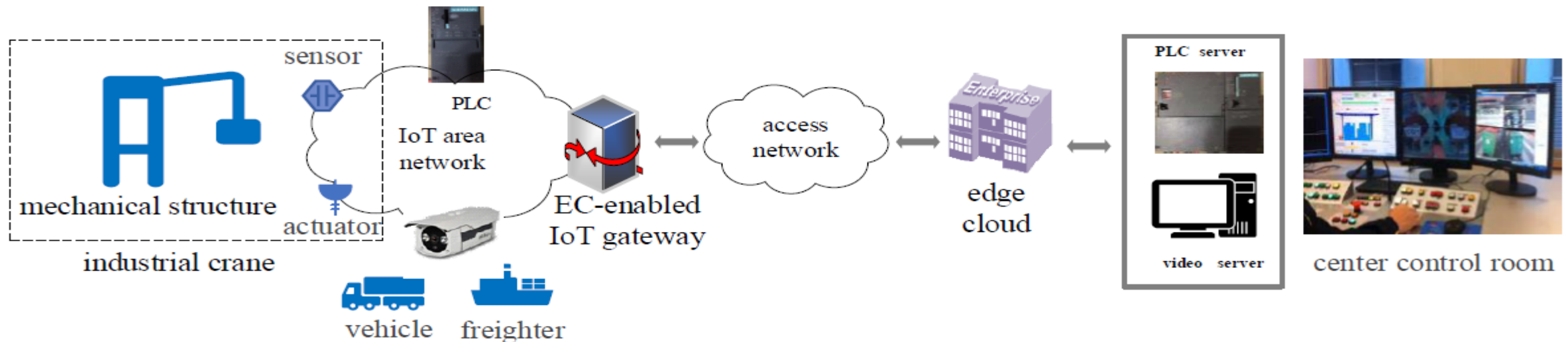
The value of EC

- ❑ Providing information technology environment and cloud computing capability near mobile users;
- ❑ It can better support the service requirements of low delay and high bandwidth;
- ❑ It can push the content distribution to the user;
- ❑ Applications, services and content can be deployed in flexible and scalable way (central or distributed).



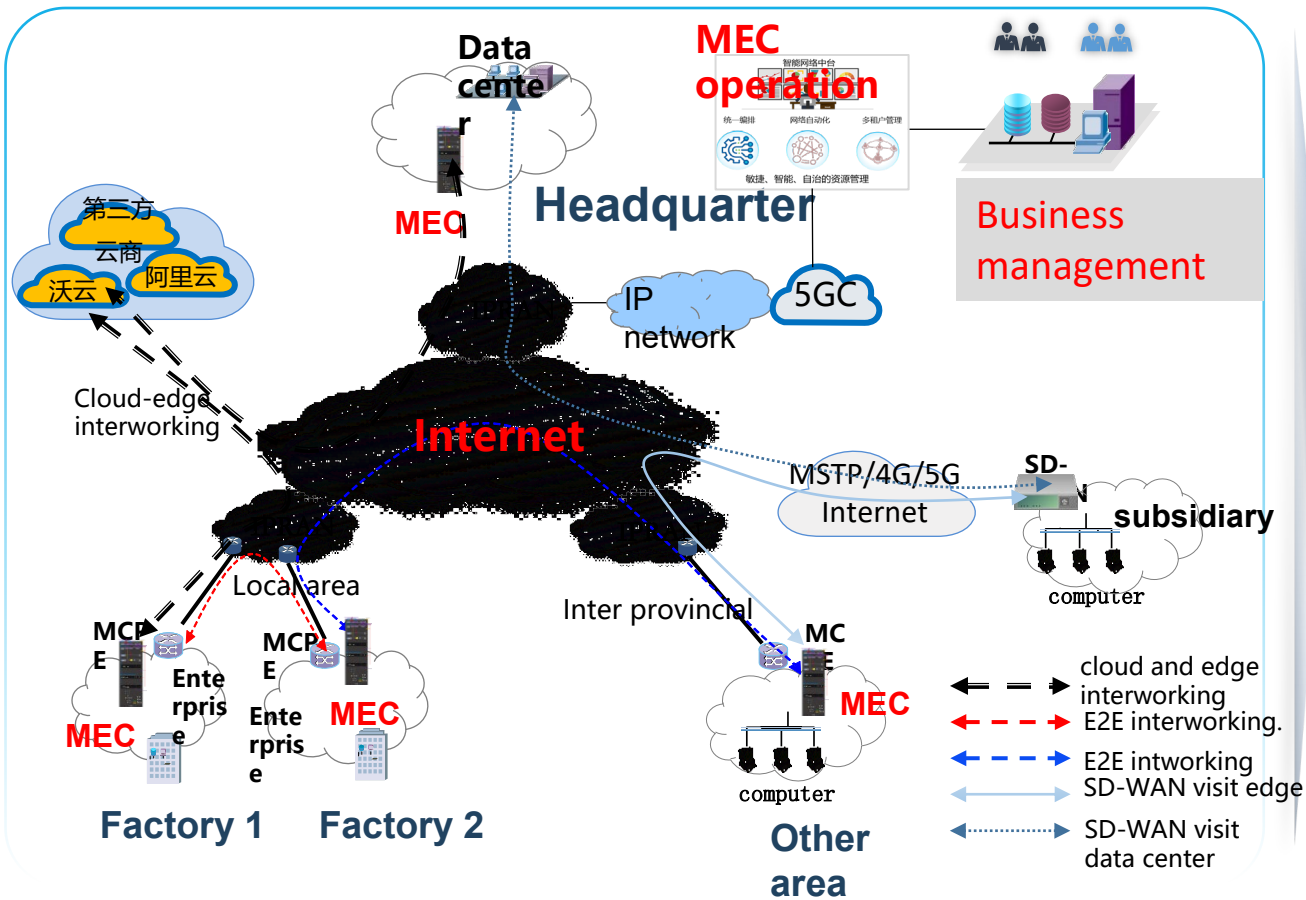
An example for EC application in the IoT

- Compared with traditional crane control, the EC-enabled IoT gateway can provide resources, for example computation, storage and network, to support collaborative decision making of multiple PLCs, and can support interworking between the servers deployed at the central control room and the PLCs deployed on the field



Example of EC-enabled IoT gateway usage in crane control

More Applications of EC in the IoT



01 new media Internet company	02 manufacturing Aircraft manufacturing	03 Transportation Automobile manufacturing	04 medical care Hospital
05 Smart port Harbor	06 Surveillance Police station	07 Smart grid Grid company	08 Education Universities

Machine vision	Inspection robot	Edge cloud VR
Surveillance	Edge AGV	Maintenance

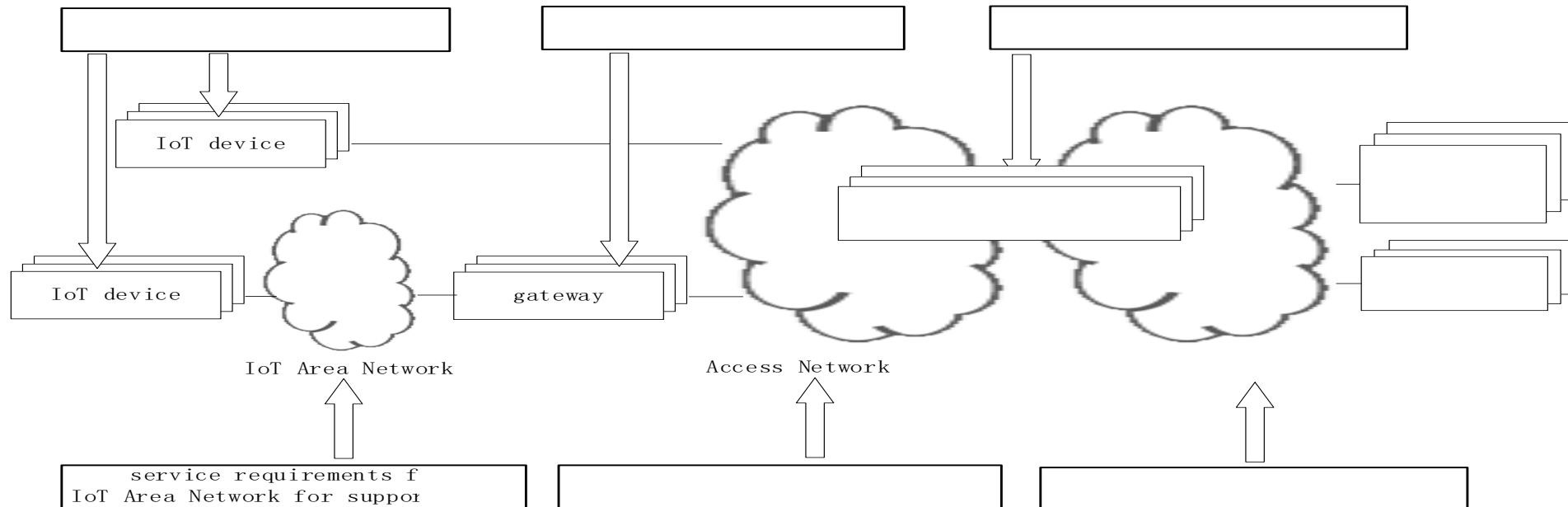
UPF/GW-U	CUC-MEP	ICT-VAS能力	ME-APP
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IaaS/CaaS: Integration of edge computing and the IoT

IoT Edge computing related standardization activities in ITU-T SG20



- ITU-T Y.4208 “Internet of things requirements for support of edge computing”
- ITU-T Y.4122 “Requirements and capability framework of edge computing-enabled gateway in the IoT”
- ITU-T Y.AI-DECCS “Functional architecture of AI enabled device-edge-cloud collaborative services for IoT and smart city”
- ITU-T Y.IoT-DES-fr “Framework of decentralized service by using DLT and edge computing technologies for IoT devices”



Thanks for your attention!