WAIC 2023世界人工智能大会 张江分会场
张江集团 ZHANGJIANG GROUP
智联世界 生成未来 INTELLIGENT CONNECTIVITY GENERATING FUTURE
2023世界人工智能大会 WORLD ARTIFICIAL INTELLIGENCE CONFERENCE

CCSA TC602 Works for Metaverse Standardization

Shuo Liu
working group leader, CCSA TC602 WG2

Content

1

Why Metaverse is Important

2

Why Standardization is Important

3

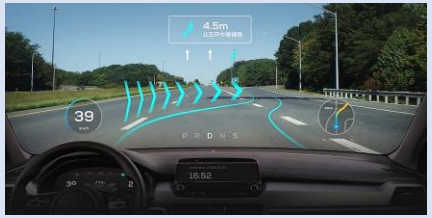
Introduction of CCSA TC602's work

Why Metaverse is Important

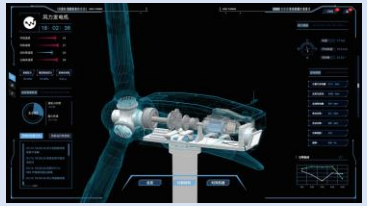
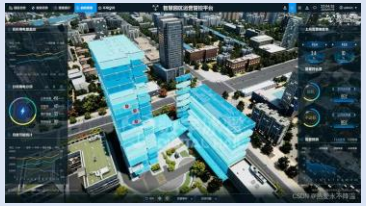
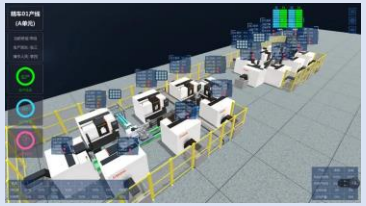
Typical Applications of Metaverse

Digital Human

XR Interaction



Digital Twin

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Digital Human:

- ✓ Virtual idols innovate new forms of entertainment
- ✓ Digital employees reduce labor costs

XR Interaction:

- ✓ Cloud tourism to achieve remote immersion experience
- ✓ Virtual lab to realize 3D vivid teaching
- ✓ AR models help medical efficient diagnosis

Digital Twins:

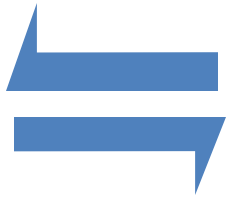
- ✓ Smart city
- ✓ Plant management
- ✓ Fine design

...

Why Standardization is Important

Manufacturers

- **Serious homogenization competition**, lack of progress direction and excellent benchmarking reference
- **No unified interface between technologies**, many products and platforms cannot be connected



Clients

- **No selection reference**, slow user experience improvement speed
- Difficulty to **circulate user's identities and assets between platforms**

Introduction to CCSA TC602

CCSA	China Communications Standards Association
TC	Standards promotion committee
TC602	Network Data Technical Standards Promotion Committee

Research Scope

Focusing on **the governance of cyberspace, protection of user data and rights and interests, industrial users, protection of intellectual property rights, public security informatization, international exchanges and other fields**, TC602 carries out new technology research and standards promotion, publicize and implement standards and relevant laws, regulations, policies and guidelines, and verify the conformity of standards of technologies, products and services.

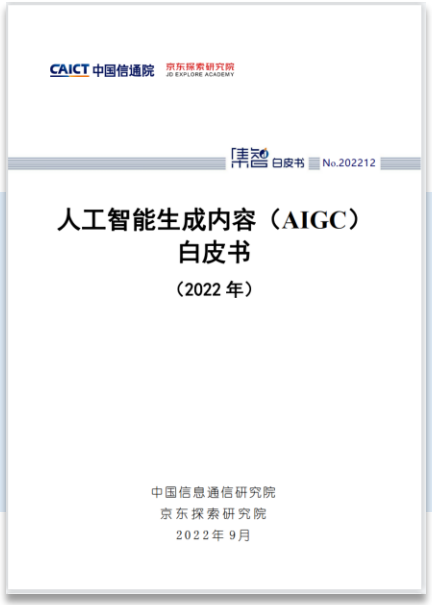
Our Work

- Industrial Research
- Evaluation specification
- Conference Activity
- International Communication

Industry Research

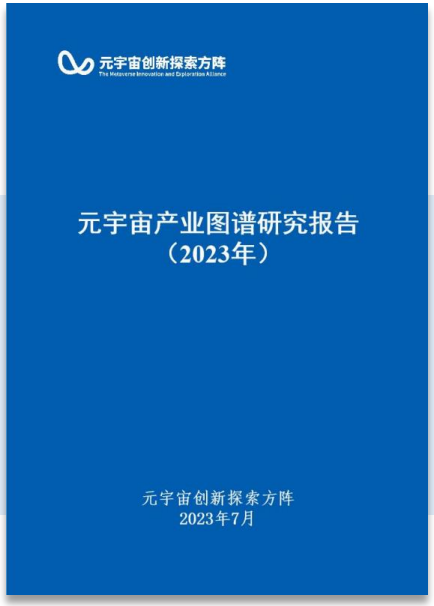
To sort out the development of metaverse enterprises and products, make the **industry atlas and white paper**, which has been **widely cited by many well-known securities and consulting institutions**, arousing wide attention.

2020 White Paper on Digital Human



2022 Artificial Intelligence Generated Content (AIGC) White Paper

2022 Metaverse Industry Atlas v1.0



2023 Metaverse Industry Atlas Research Report (to be released)

...

“Trusted Metaverse” Evaluation System

done | doing | planning

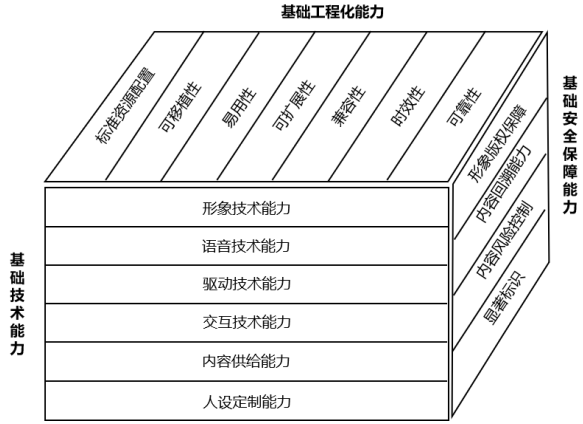
“Trusted Metaverse” Evaluation System

Terminals	Digital human machine	...		
Interconnectivity	Digital human interconnectivity	...		
Application	Finance: Digital human (NEW) ...	Marketing: Digital human (NEW) ...	Media: Virtual broadcast system ...	Tourism ...
Security	Digital human security	...		
Intellectuality	Digital human Intellectuality	...		
Performance	Digital human performance	Virtual space-time platform performance	...	
Ability	Digital human ability (HOT)	Virtual space-time platform ability	XR production platform ability	
	Digital twin platform ability	Motion capture service ability	...	

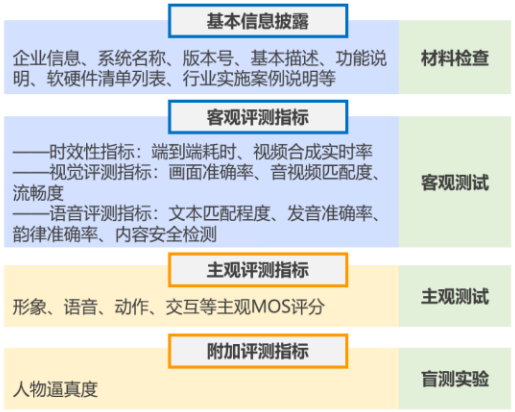
Since 2019 stepping into metaverse related work, we gradually established the “Trusted Metaverse” Evaluation System, widely recognized by the industry, **provides the reference for the technology providers, and the selection standard for application demanders.**

Released Evaluation Project

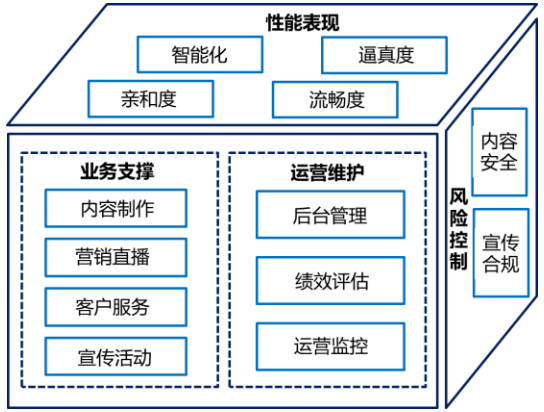
Digital Human Series



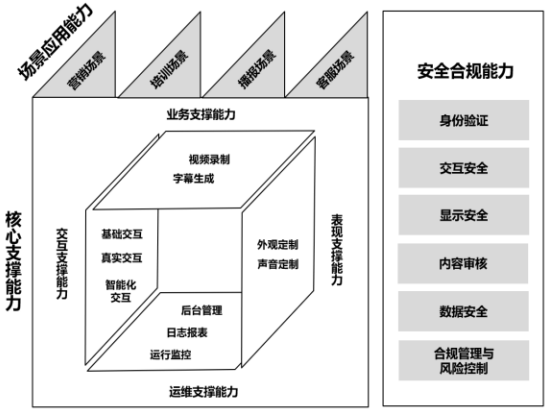
Basic Ability



Performance Classification

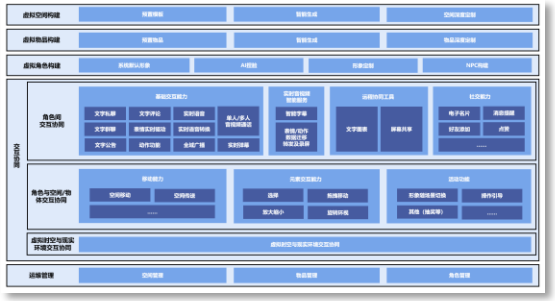


For Marketing



For Finance

Virtual Space-Time Platform



XR Production Platform

Two rounds of evaluation completed

The third round in progress...

More Evaluation Specification in Plan

1

创作阶段安全管理能力	上线阶段安全管理能力	运营阶段安全管理能力
训练数据管理	平台管理	A.服务类：垂类数字员工
	用户账号管理	B.身份类：广告、直播、IP
模板库管理	内容管理	
	个人信息保护管理	C.社交类：虚拟明星、虚拟陪伴

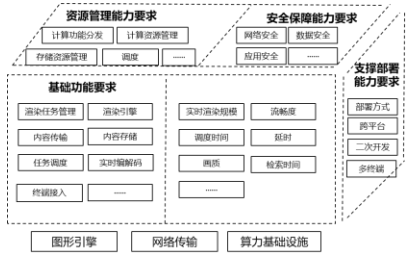
Digital Human Security

2

					安全管理
运行维护	运行监控	日志管理	后台管理		内容安全
业务支持	内容生成	识别感知	场景适配	用户体验	数据保护
交互功能	基础交互能力	智能交互能力			监控告警
基础支撑	硬件要求	软件要求	网络互联	接口管理	合规管理

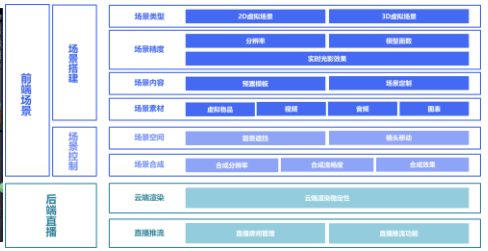
Digital Human Machine

3



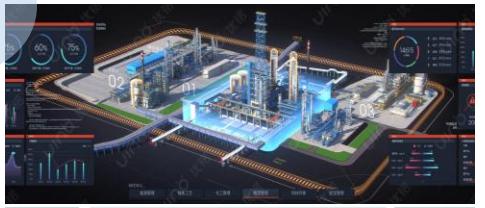
Cloud Rendering

4



Virtual Broadcast System

5



安全	体验			运维
数据安全	系统易用	视觉体验	交互终端	用户管理
网络安全	性能			项目管理
交互安全	流畅性	稳定性	智能化	系统维护
	功能			
	场景转换	模型资产	页面交互	数据分析	开放扩展

Digital Twin Platform

6

技术能力	穿戴式	空间定位	姿态计算	尺寸测量	...
	AI	AI视频处理	行为预测	纠错能力	降噪算法
联通能力		精度定义	接口定义	多设备协作	...
安全能力		数据安全	内容安全	...	

Motion Capture Service

...

Technical Salons and Standard Seminars

Organize large-scale salons and seminars six times:

2022.8.11

2022.10.14

2022.11.16

2023.4.18

2023.6.9

2023.6.27

Attract hundreds of enterprises to actively sign up and give topic presentations:

中国移动 China Mobile
China unicom 中国联通
中国电信 CHINA TELECOM
AsiaInfo 亚信科技
科大讯飞 iFLYTEK
北京航空航天大学
北京航空航天大学
Alibaba 阿里巴巴
Baidu 百度
oppo
網易 NETEASE www.163.com
ZTE 中兴
中国人民大学
...

Cooperation with the United Nations International Telecommunication Union (ITU)

By the International Group of The Metaverse Innovation and Exploration Alliance, deeply supported the work of ITU international standards, deeply participated in the activities of ITU-T Metaverse Contact Group and ITU-T FGMV Metaverse Focus Group, responsible for the domestic and international industrial docking and standardization needs.

元宇宙创新探索方阵
The Metaverse Innovation and Exploration Alliance

⇅

ITU

- To develop deliverables related to working definitions and terminology, use cases, and requirements.
- To develop deliverables with guidelines and collection of best practices, including a gap analysis and a pre-standardization roadmap.
- To develop deliverables related to technical frameworks, and architecture, taking into consideration security requirements and approaches, PII protection and design principles to meet accessibility requirements.
- To organize and participate in workshops to share and collect knowledge and experience from a wide range of expert community and stakeholders.

✓ **Successfully released the world's first two international digital human standards**

✓ **Support the focus group's first meeting held in Riyadh, Saudi Arabia, in March 2023**

Work Plan in the Future

Organization and Operation

- Plan **working meetings**
- Refine contents of the working groups further

International Communication

- Connect closely with **ITU-T Metaverse Focus Group and contact group**
- Organize focus group meetings and international seminars
- Export excellent cases, technical reports and draft standards internationally

Technical Research

- Broaden **standard research** in other areas of the metaverse
- Carry out large-scale evaluation and testing
- Publish **research reports and white books** on core technology and industry

Active Industry

- Hold **metaverse technology salons, competitions, industry summits, and other international communication activities**
- Collect and publish the **catalogue of excellent products, typical application cases and scenarios in metaverse**

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Thank you for listening!