

SuperMap GIS Enables “City Blood”

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Existing Problems

Underground space resources are becoming increasingly tense, and pipeline planning and management are facing severe challenges



The refined level of pipeline planning and management needs to be improved



The intelligent level of pipeline management is not compatible with the status of global cities

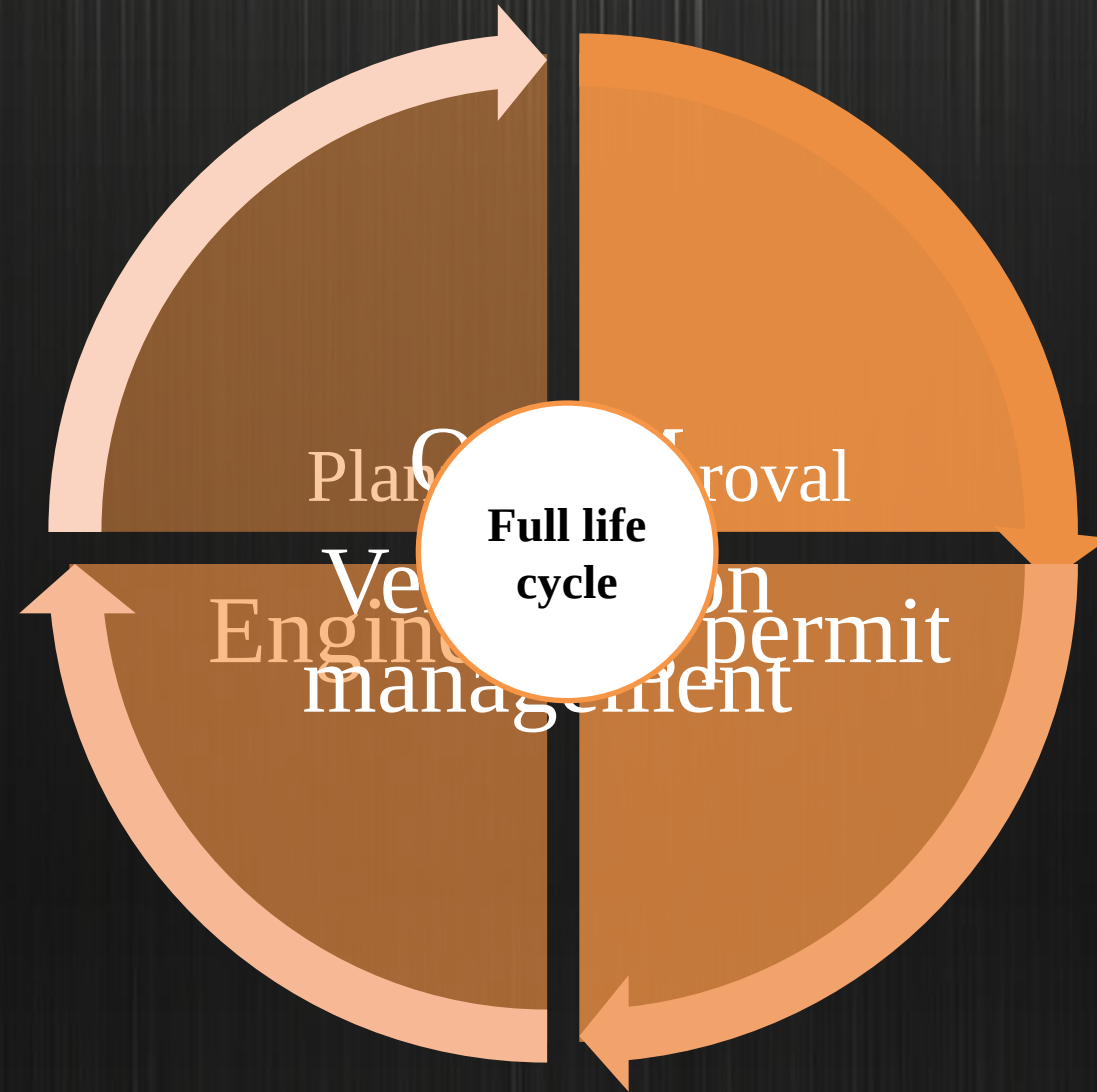


Arranged in a
crisscross pattern

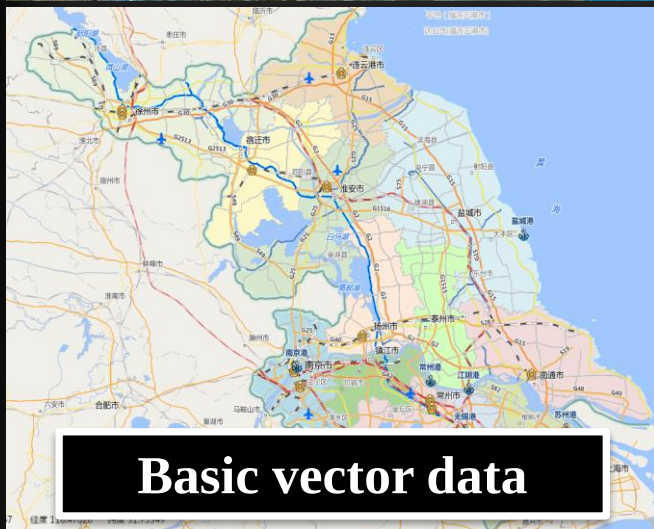
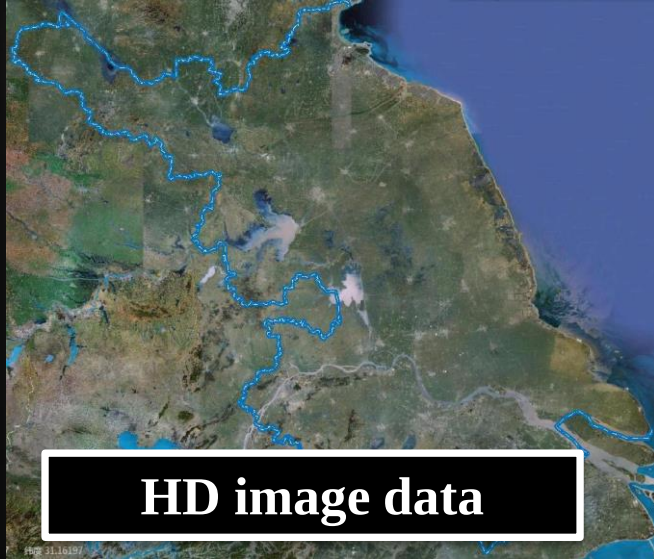
Strong concealment

High density

Full Life Cycle



Digital Base



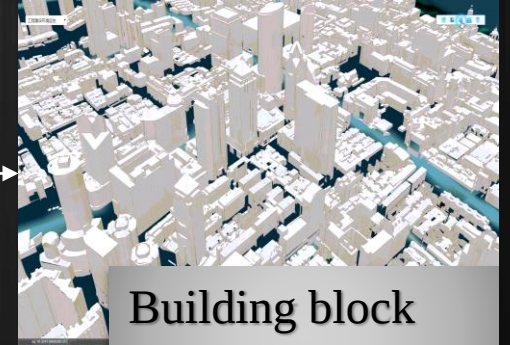
On the ground

Multi
regular/parametric
linear extrusion



Symbolic modeling
(point/line/face)

Image acquisition
roof/texture mapping



Building block
model



**Rapid Modeling Based on
Rules/Symbols/Parameters**

Surrounding Environment Modeling



01



Oblique
photography

02



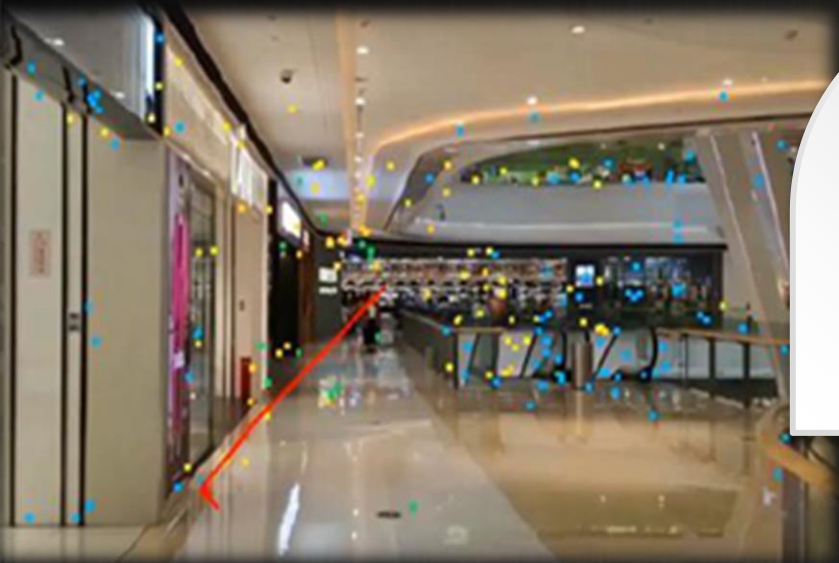
Laser point
cloud



03



Mobile
portable



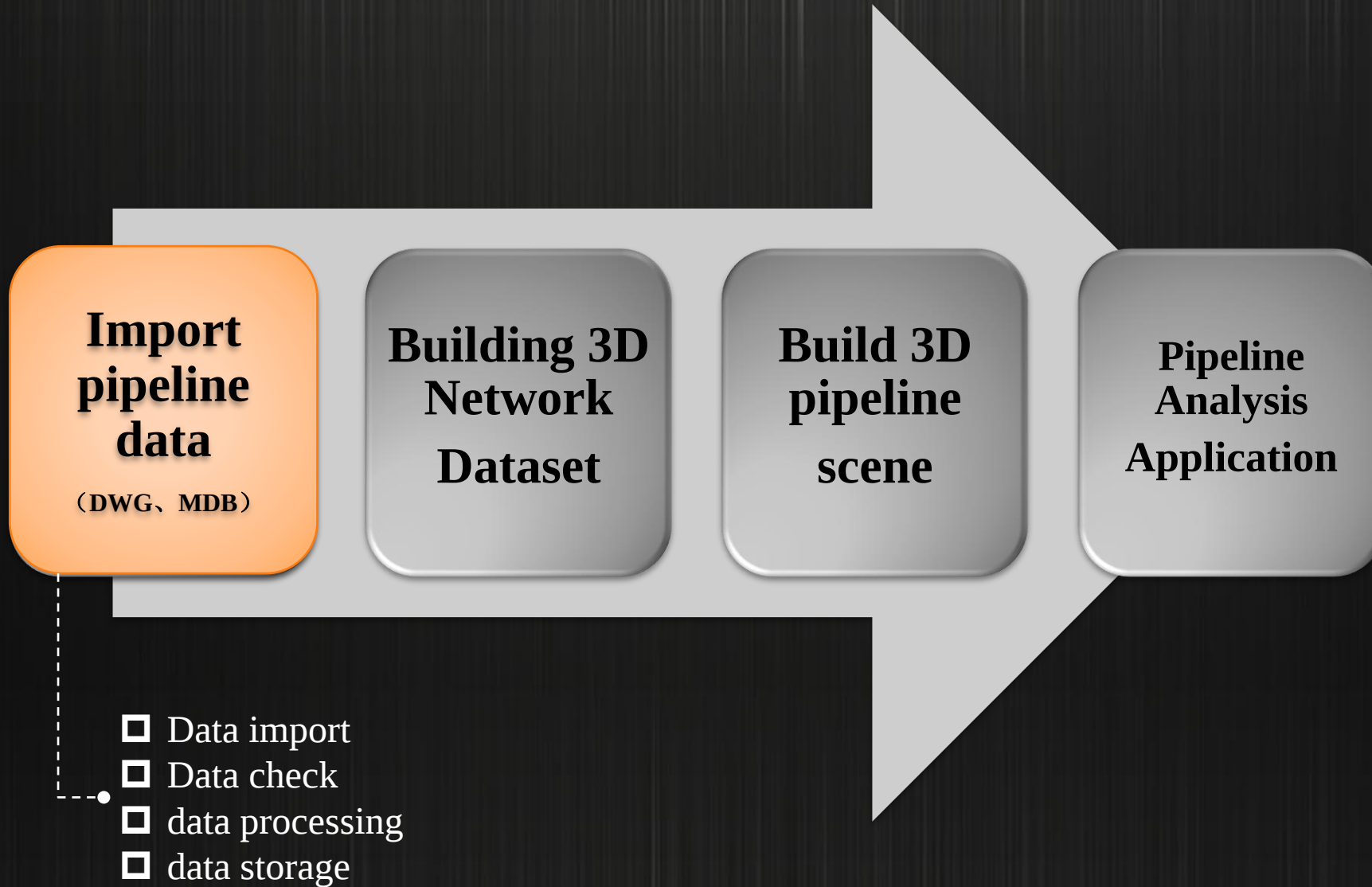
04



BIM

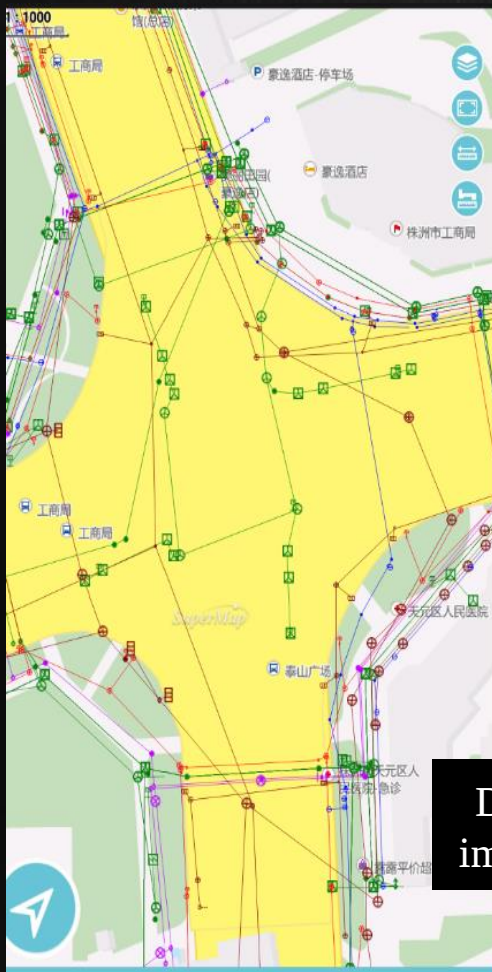


Pipeline Full Cycle Application Process



SuperMap Pipeline Data Technical Scheme

Pipeline data



Data import

Data check

Application presentation layer



iMobile



iClient



Online



iPortal



In response to the industry demand for pipelines, SuperMap provides a GIS based pipeline processing technology scheme to provide technical support for various stages of pipeline data management and sharing.



iDesktop

Data processing



Data storage

iServer



Service publish and management

Data Check



Whether the elevation field exists



Whether the pipe point is on the pipeline

管点管线匹配检查

数据源信息

数据源: syqpipe

管点数据设置

点数据集: DSPoint

编号字段: Exp_No

高程字段: High

管线数据设置

线数据集: DSLine

起始点信息

编号字段: S_Exp

高程字段: S_Thigh

终止点信息

编号字段: E_Exp

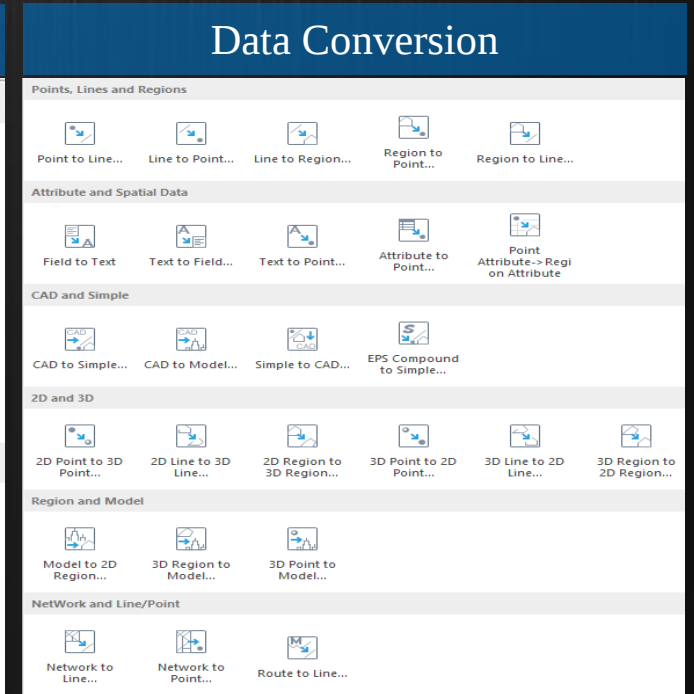
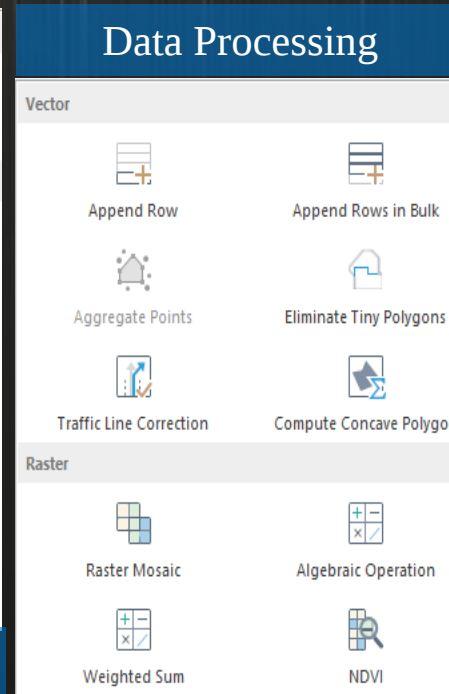
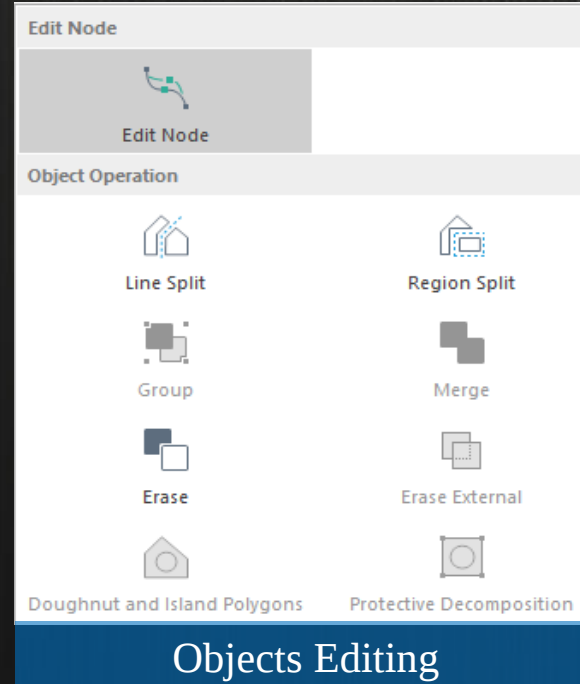
高程字段: E_Deep

错误数据点编号

01DS0001
01DS0002
01DS0003
01DS0004
01DS0005
01DS0006
01DS0007
01DS0008
01DS0009
01DS0010
01DS0011
01DS0012
01DS0013
01DS0014
01DS0015
01DS0016
01DS0017
01DS0018
01DS0019
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01DS0027
01DS0028
01DS0029
01DS0030
01DS0031
01DS0032
01DS0033

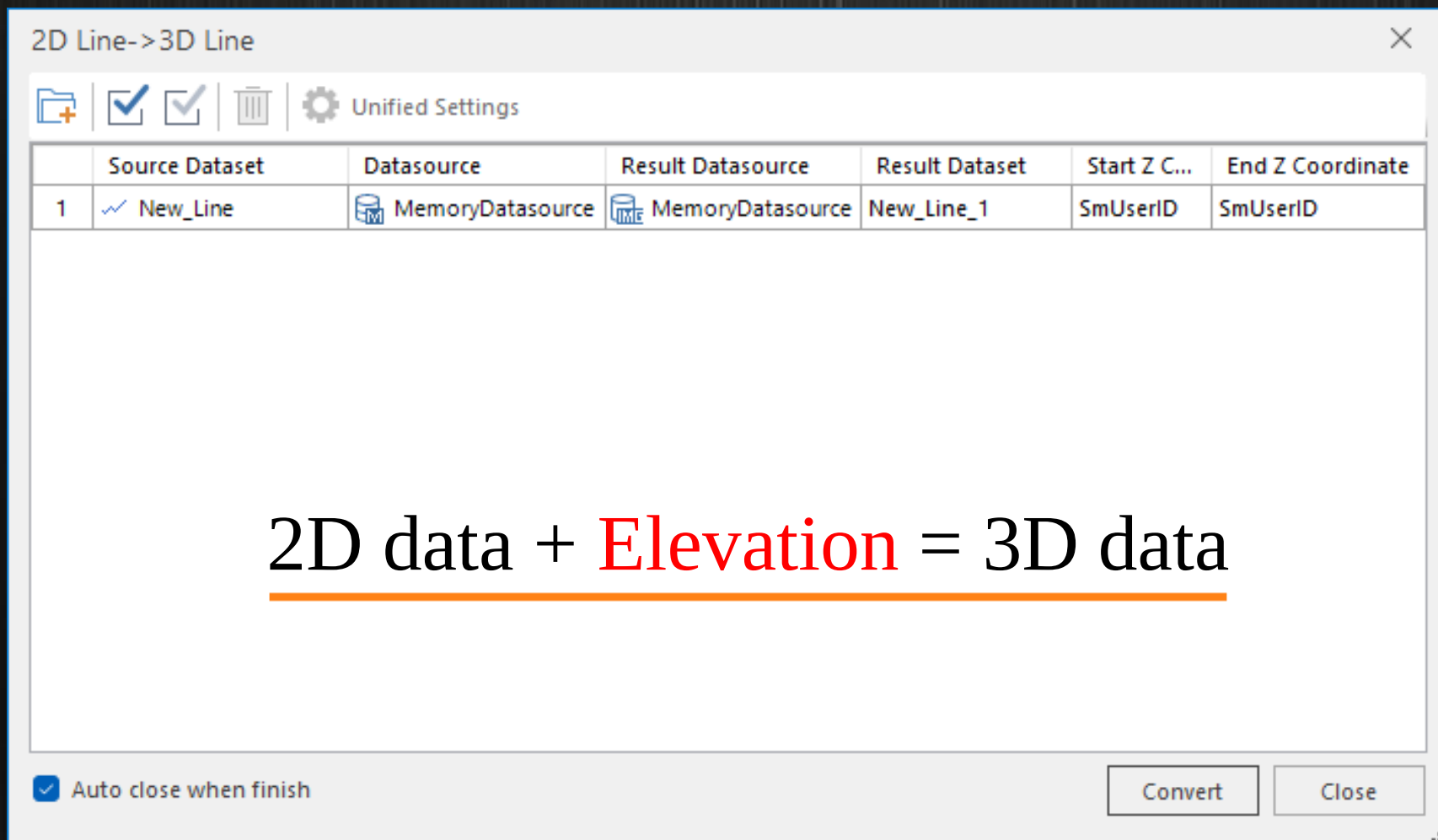
确定 取消

Pipeline Data Processing



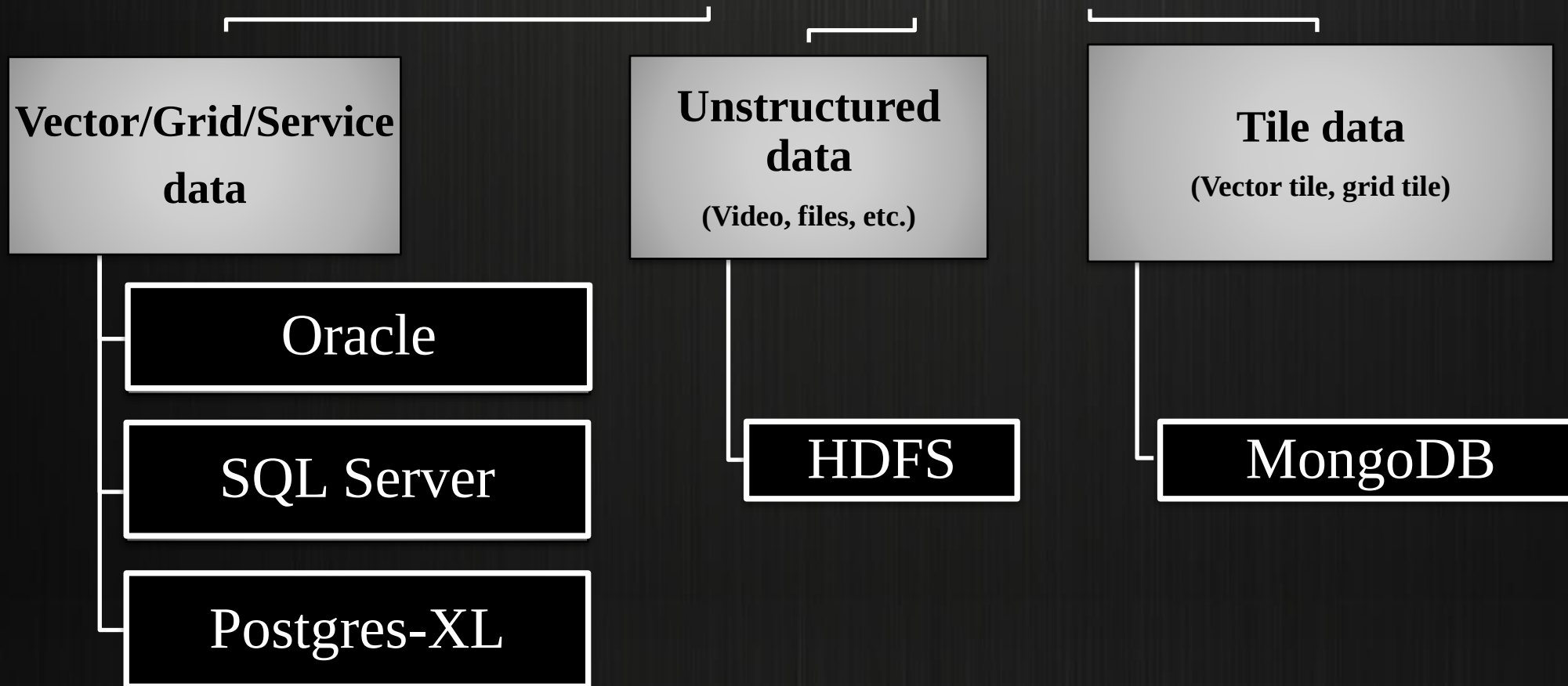
200+ Data Processing Tools

Data Conversion

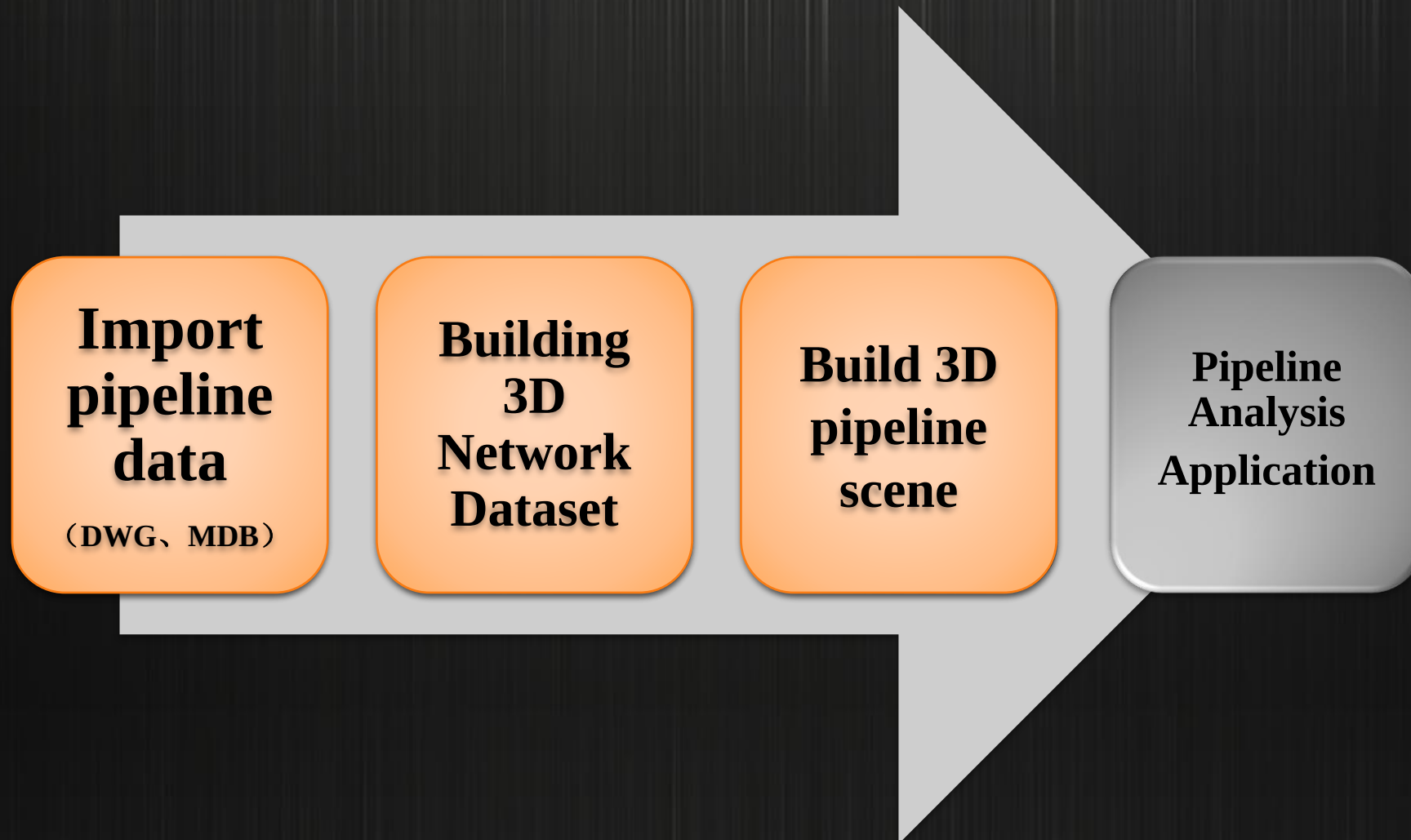


Data Storage

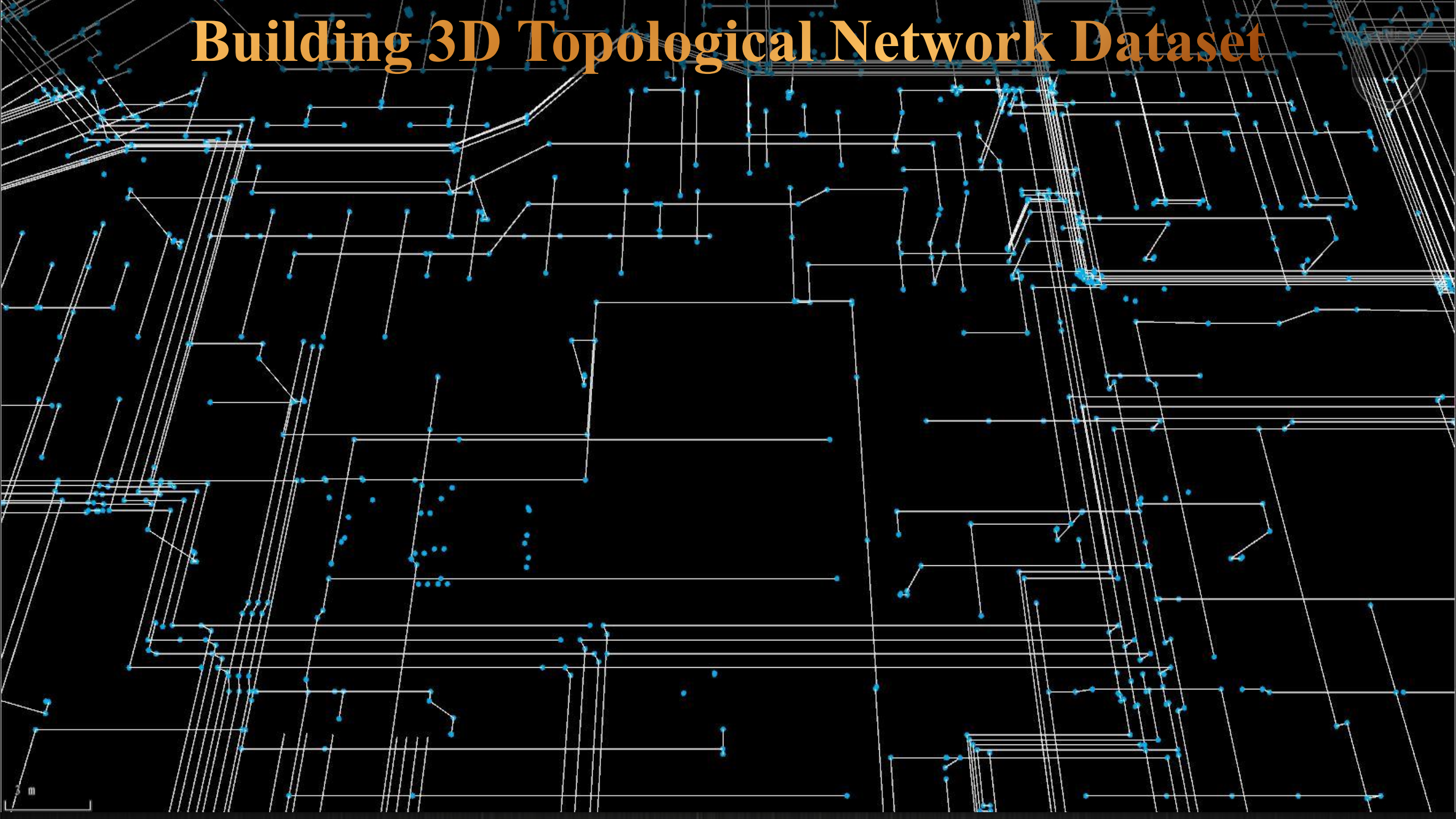
SuperMap SDX+



Pipeline Full Cycle Application Process

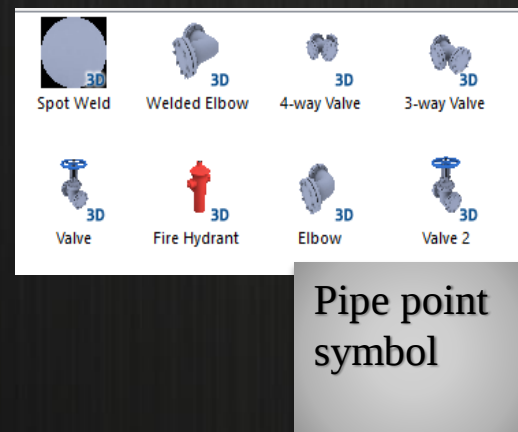
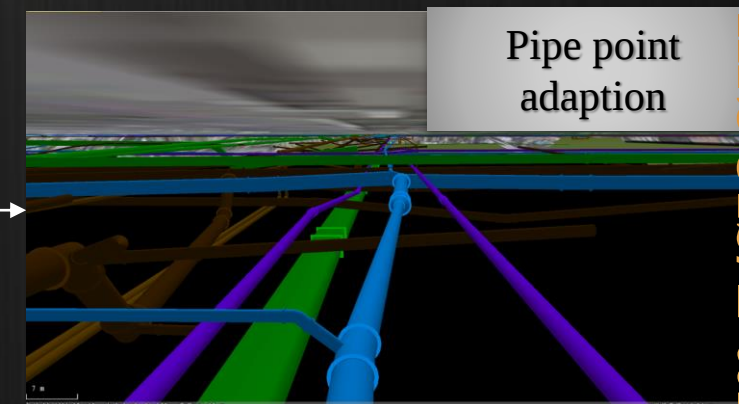
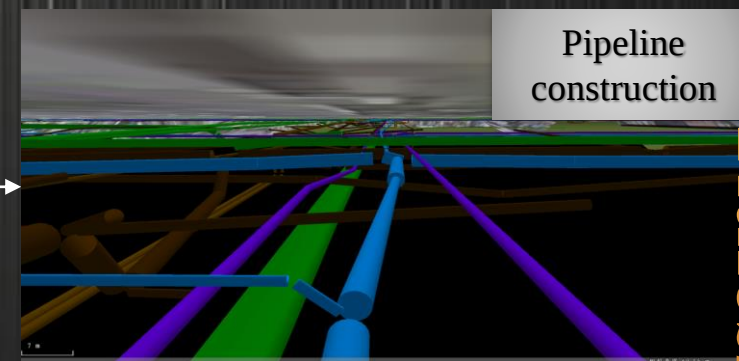


Building 3D Topological Network Dataset



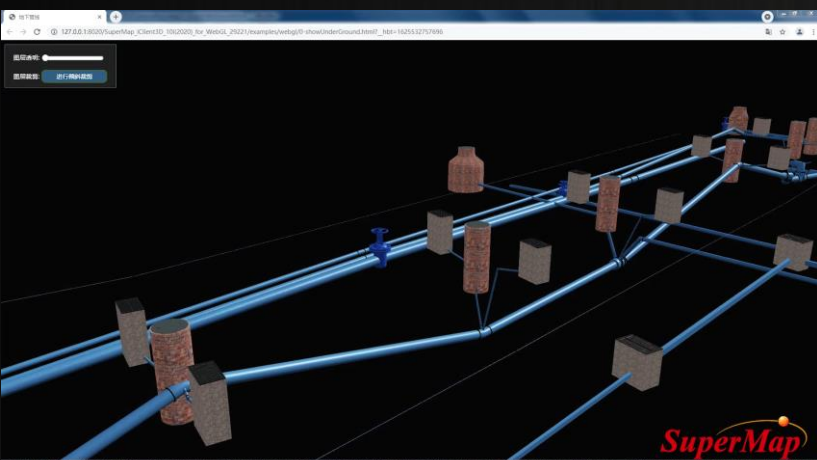
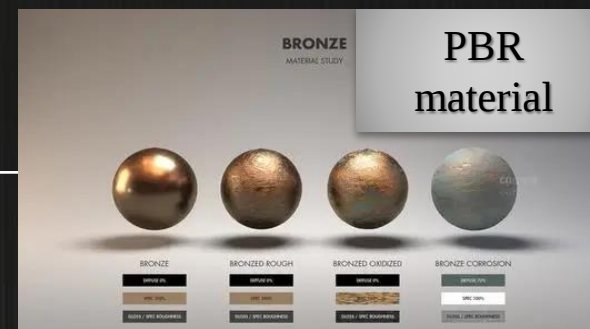
Rapid Modeling Based on Rules/Symbols/Parameters

underground

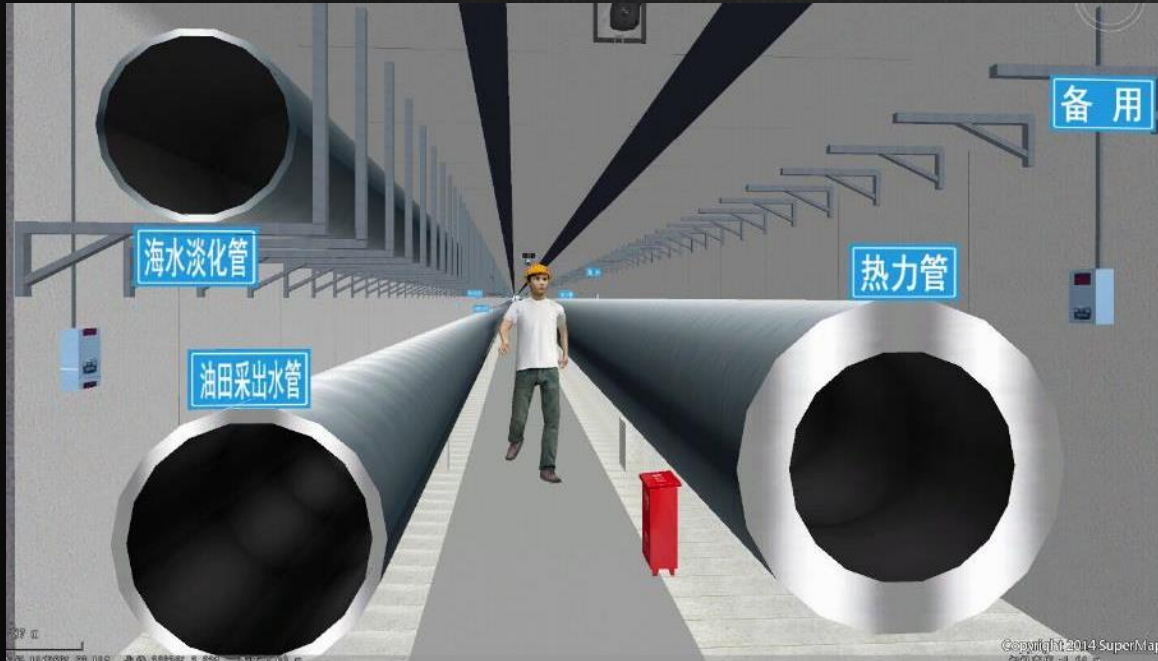


Pipe point symbol

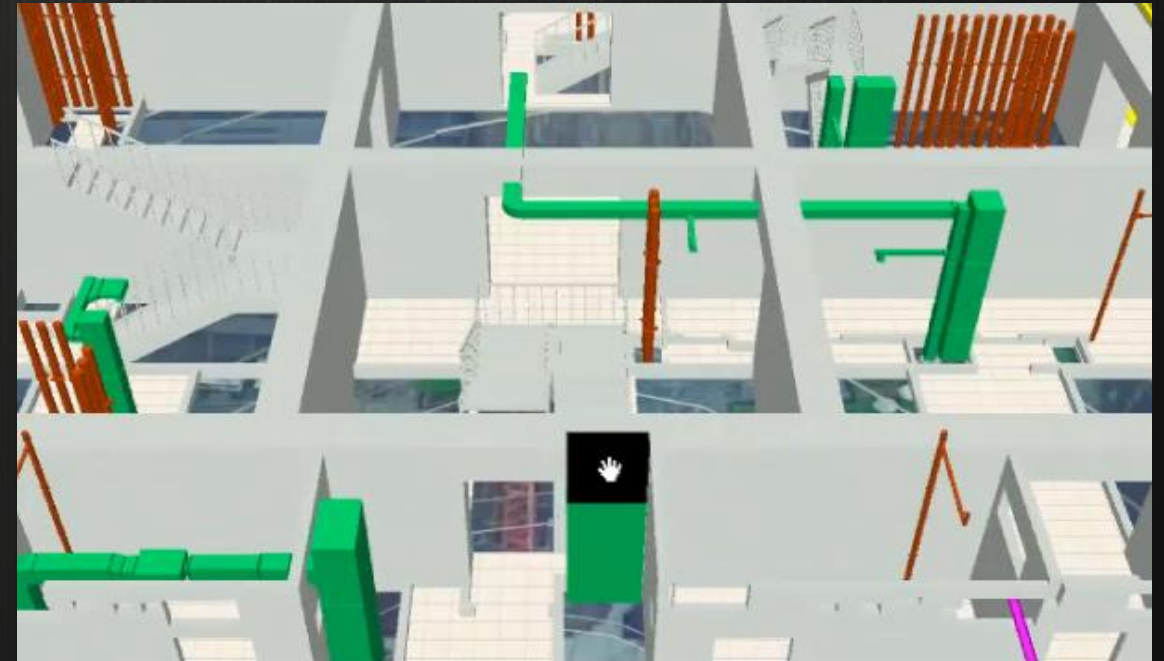
PBR material



3D Pipeline Scene - Pipeline

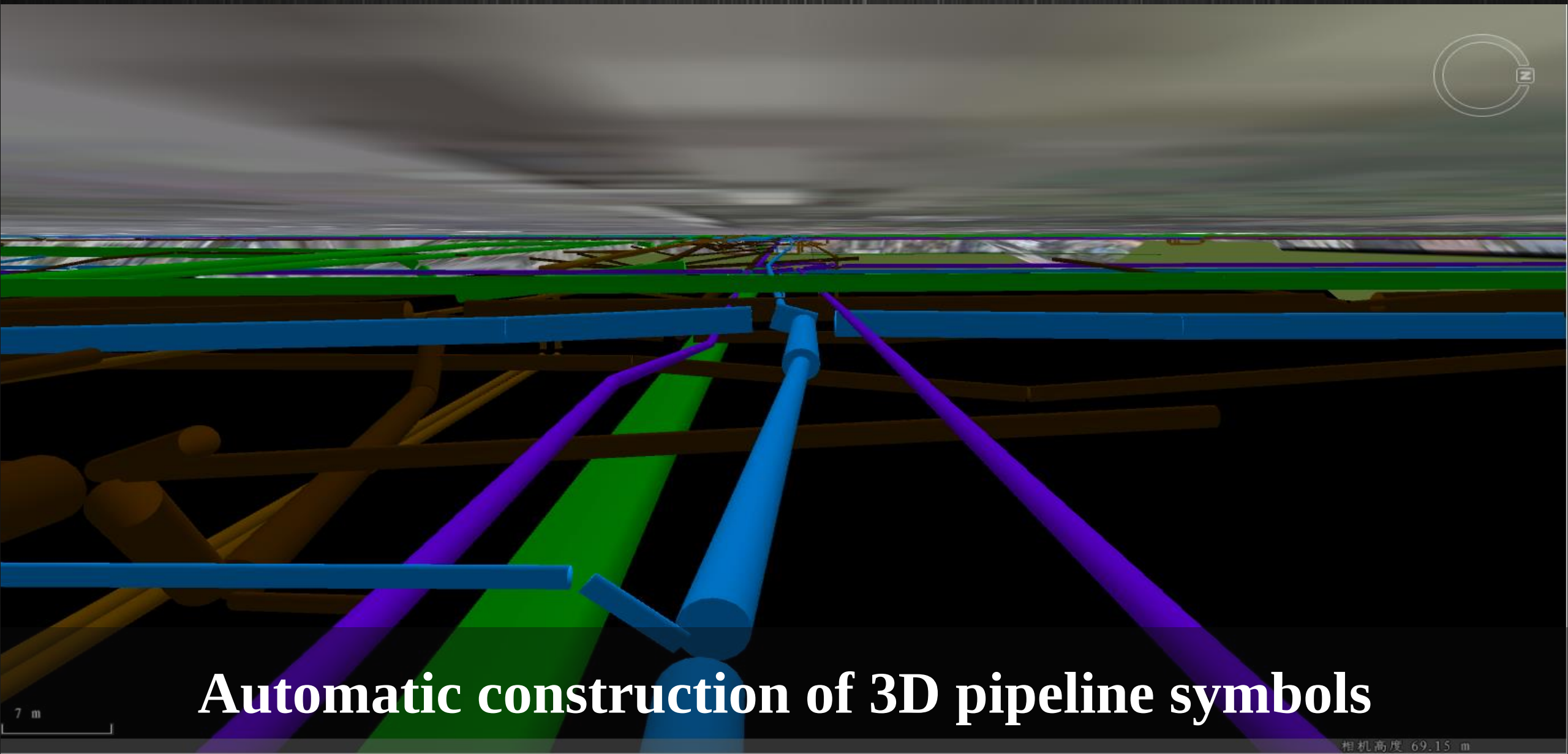


Round tube



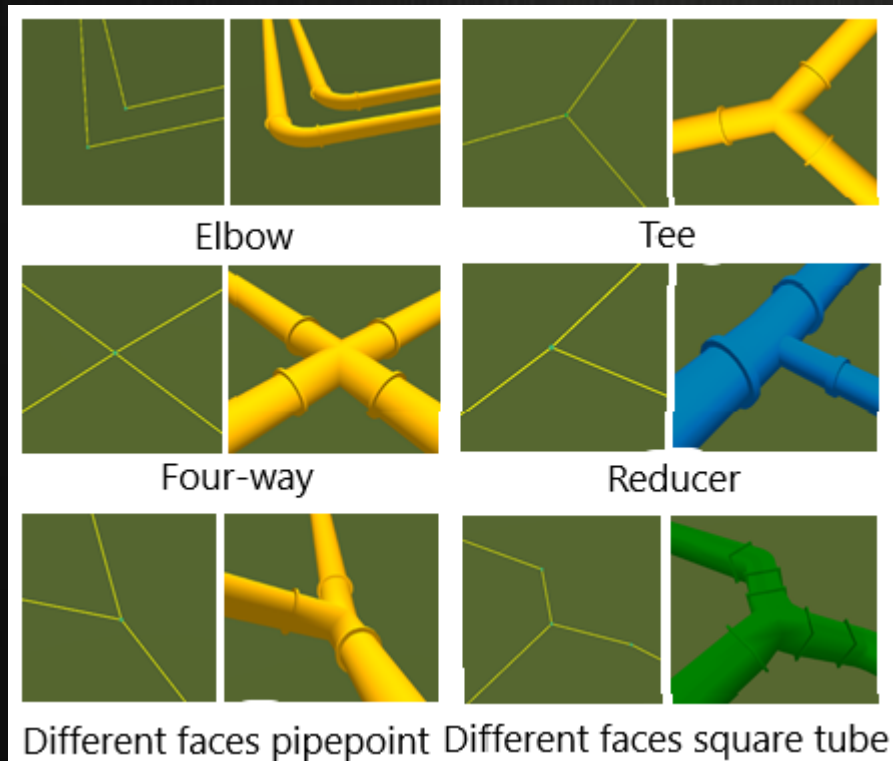
Square tube

Construct 3D Pipeline



Automatic construction of 3D pipeline symbols

3D Pipeline Scene - Pipe Points



Characteristic point

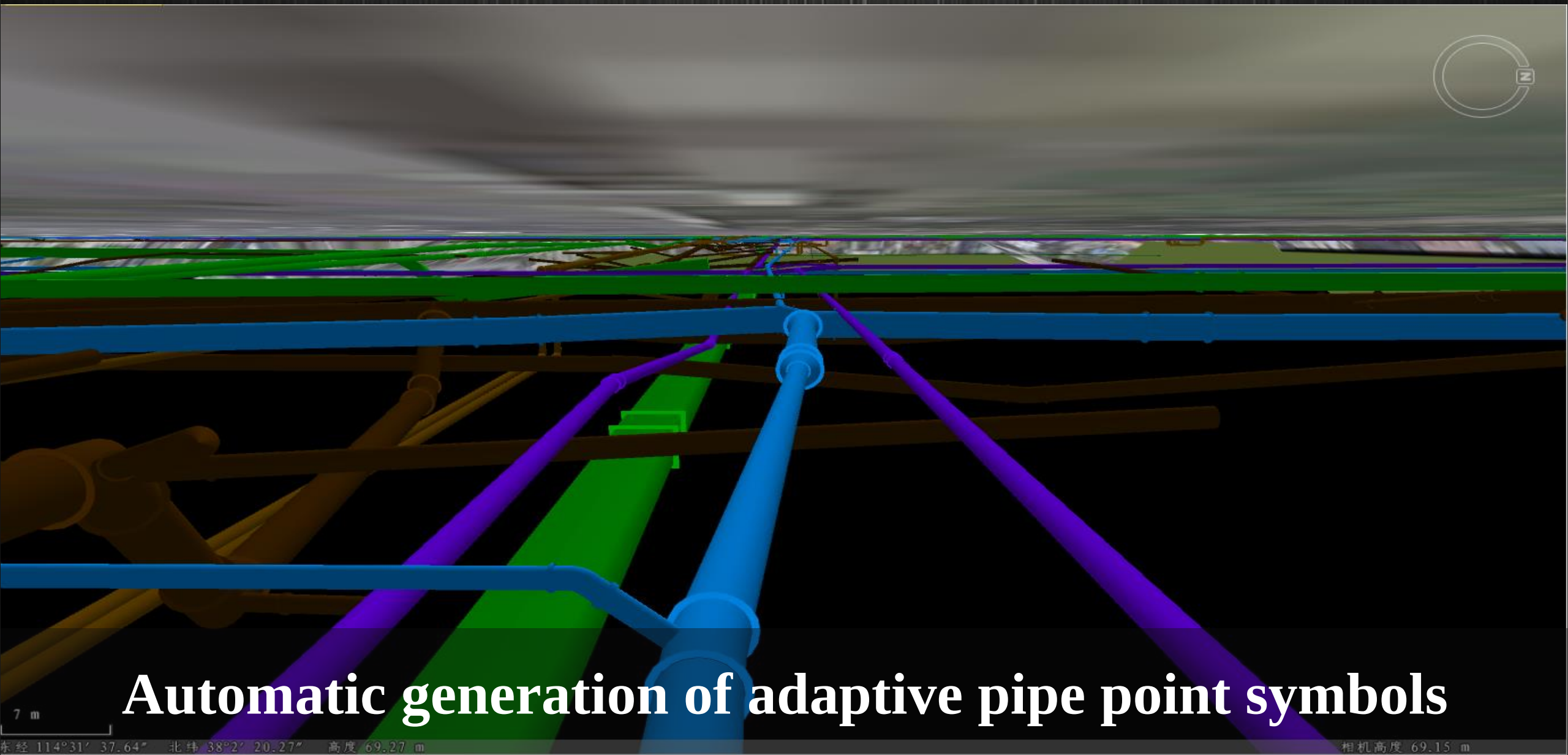


Ancillary facilities



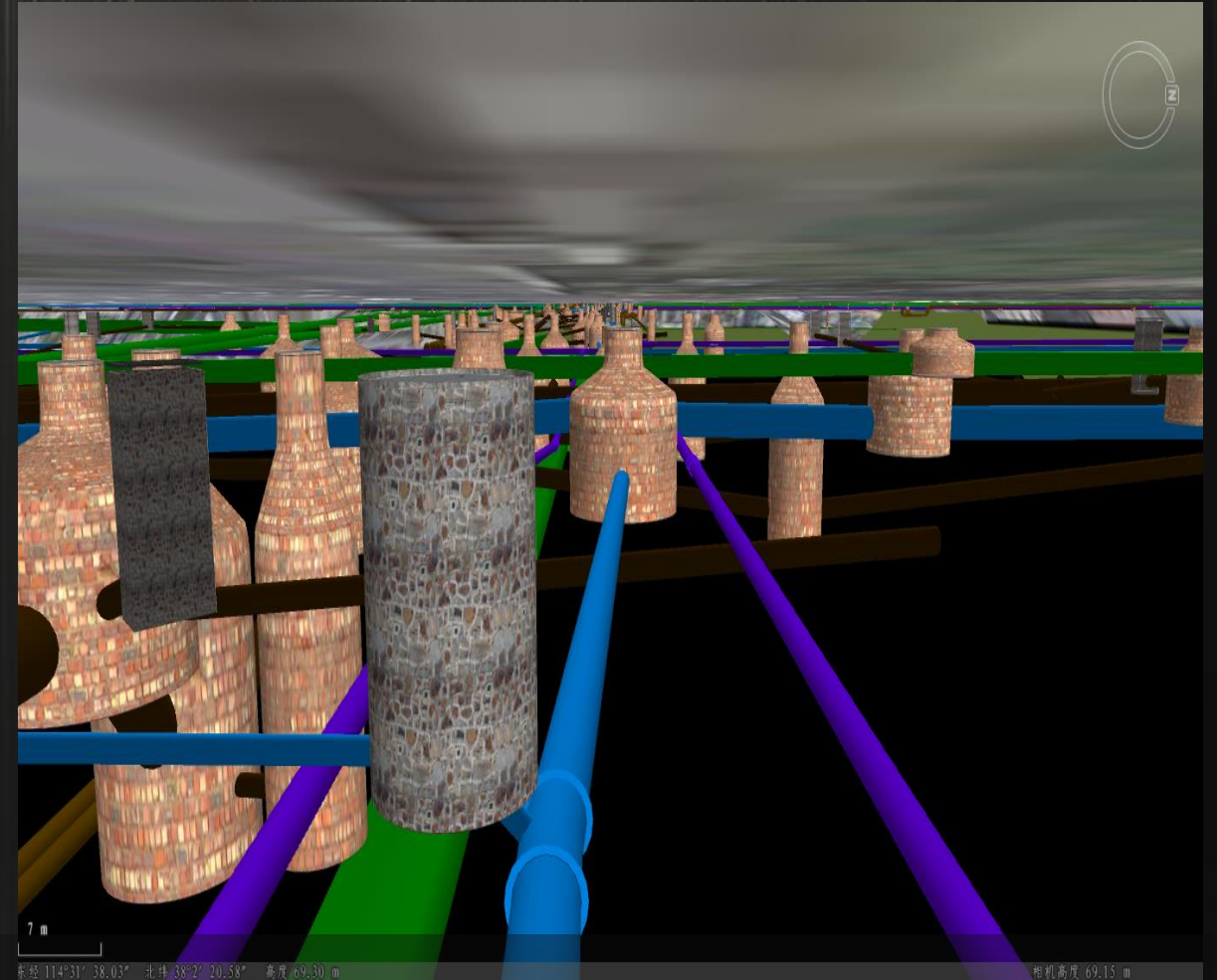
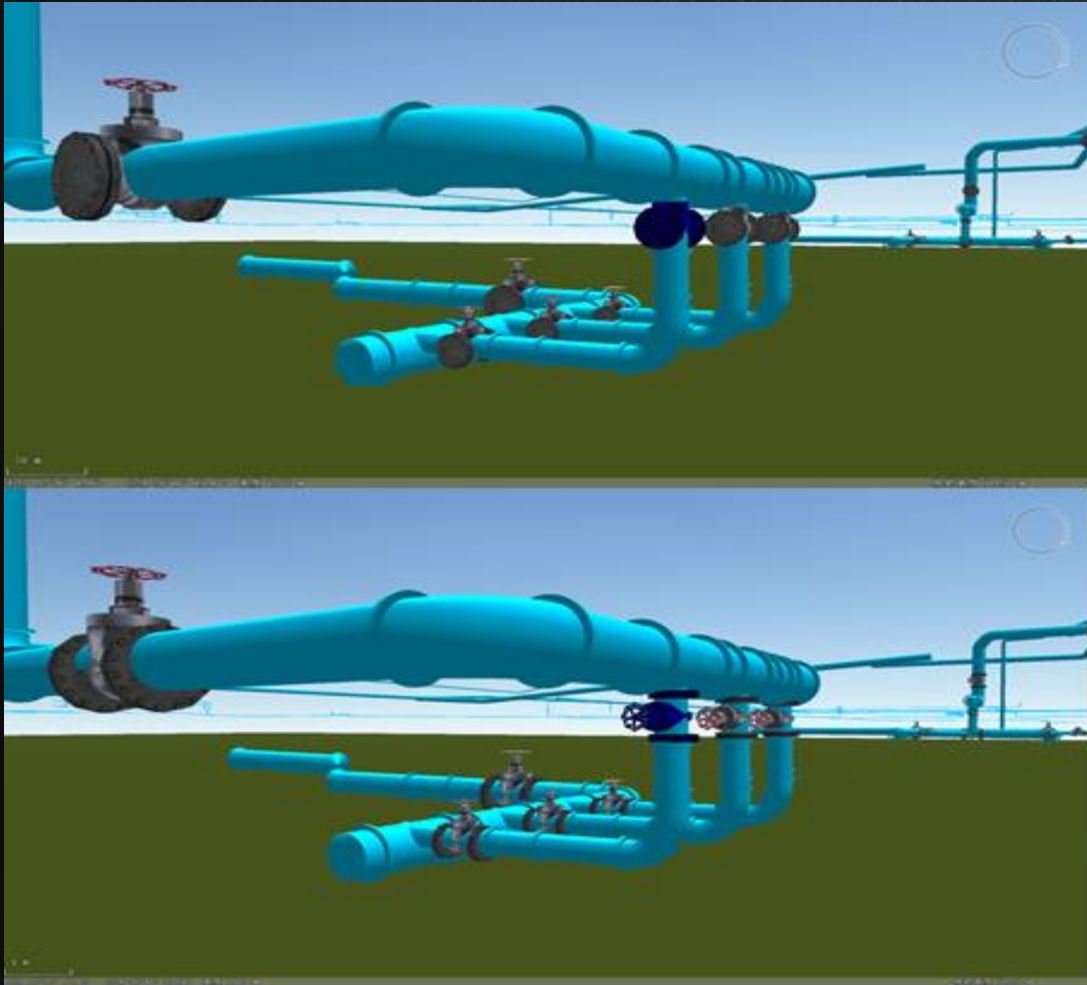
Well

Construct Elbow, Tee and Cross



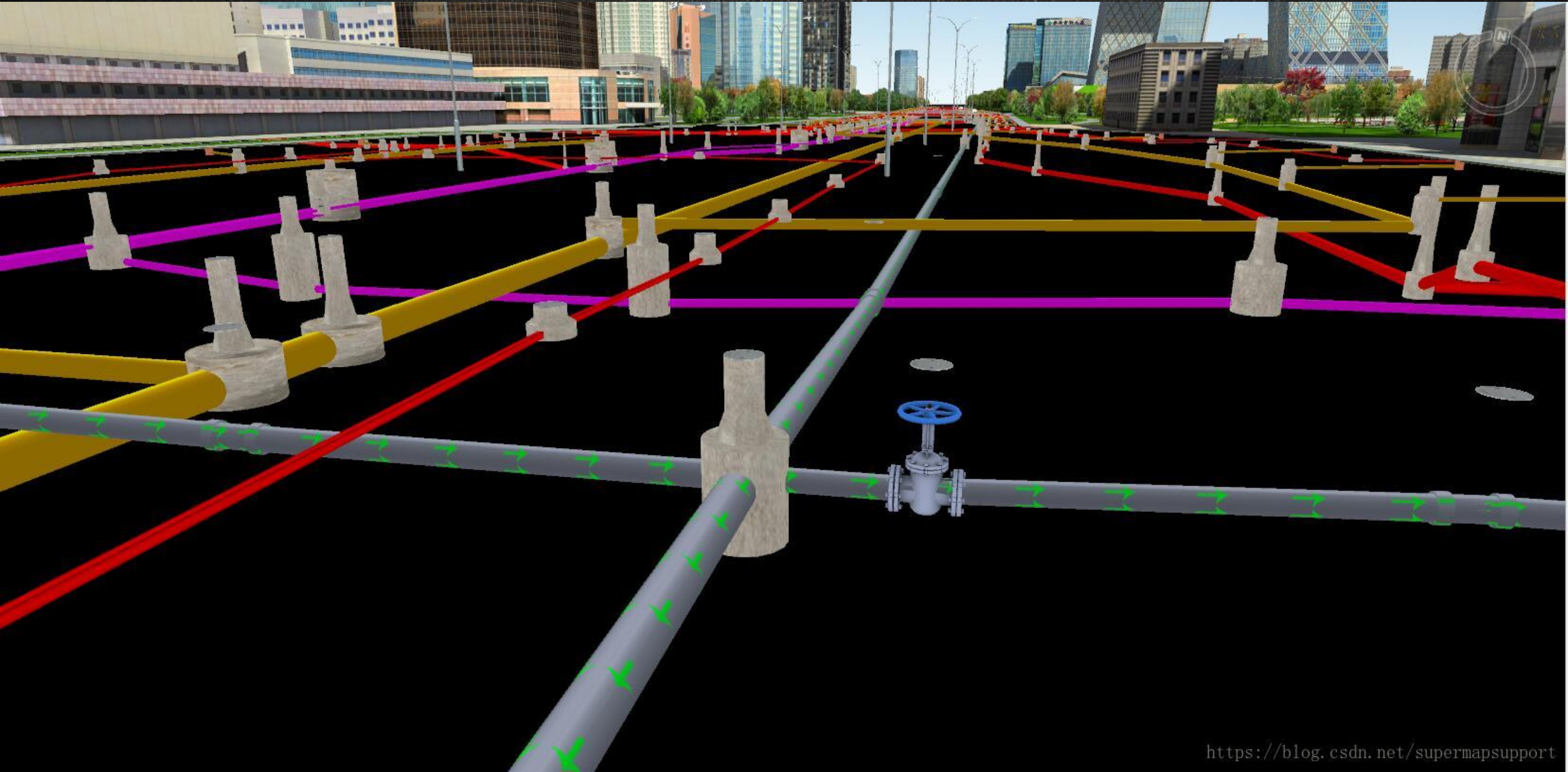
Automatic generation of adaptive pipe point symbols

Build Valves and Wells

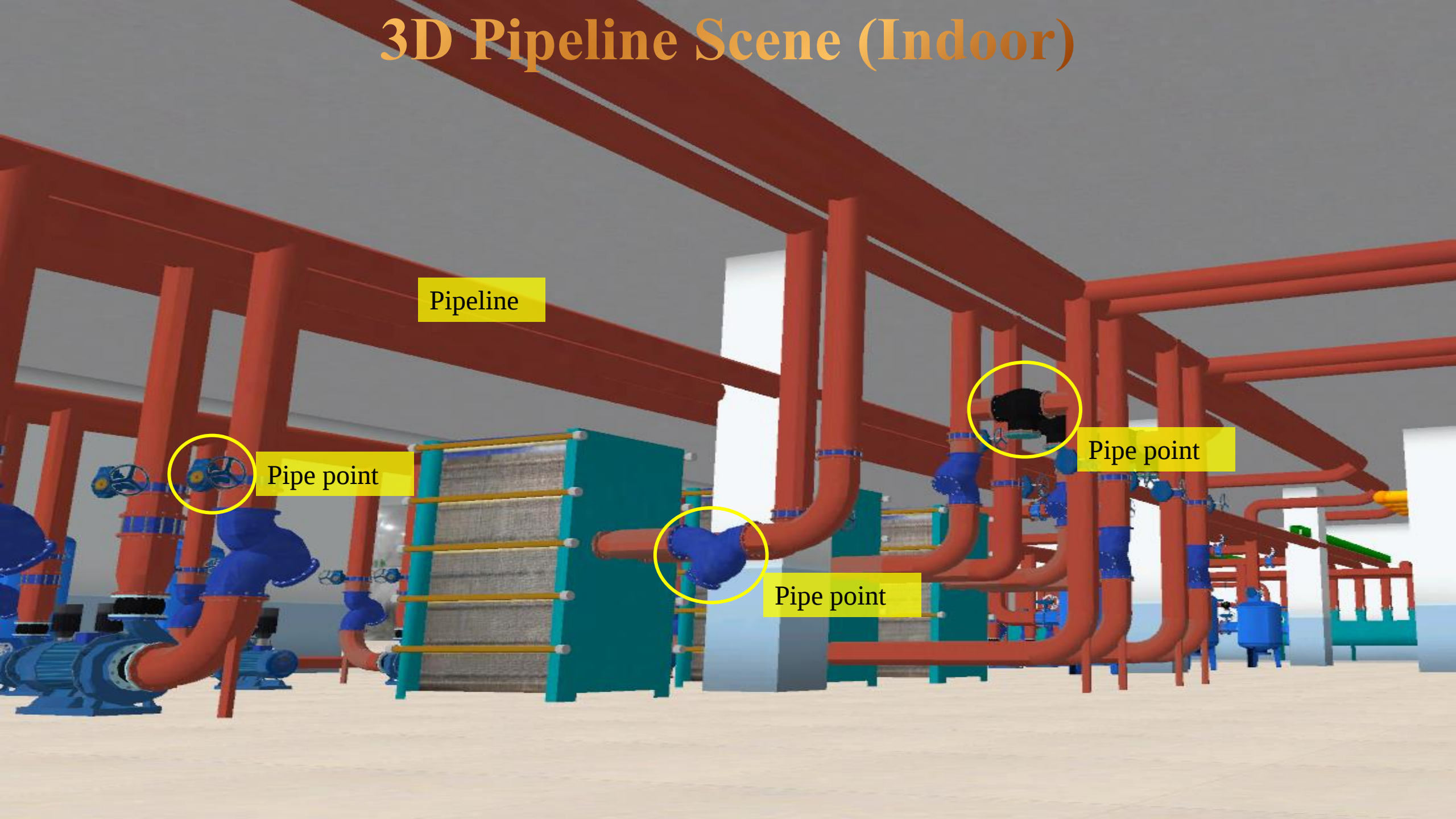


Automatic generation of adaptive pipe point symbols

3D Pipeline Scene (Outdoor)



3D Pipeline Scene (Indoor)



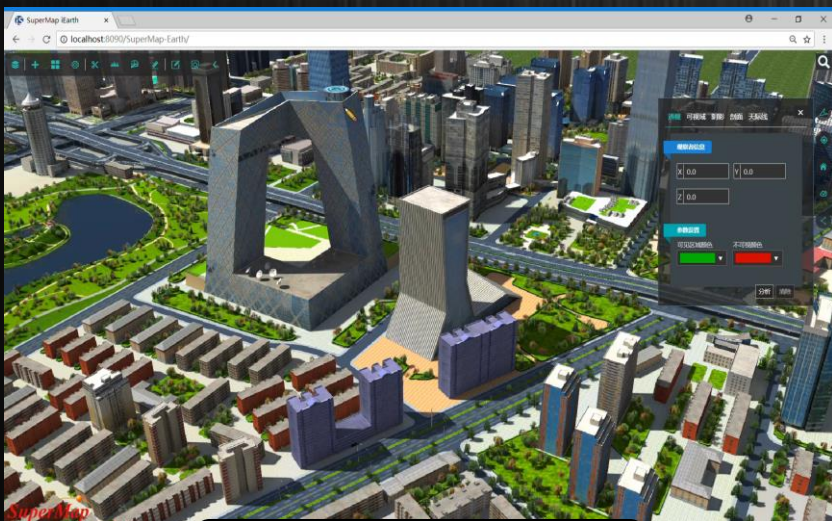
Pipeline

Pipe point

Pipe point

Pipe point

Multi Terminal Experience of Municipal Facilities



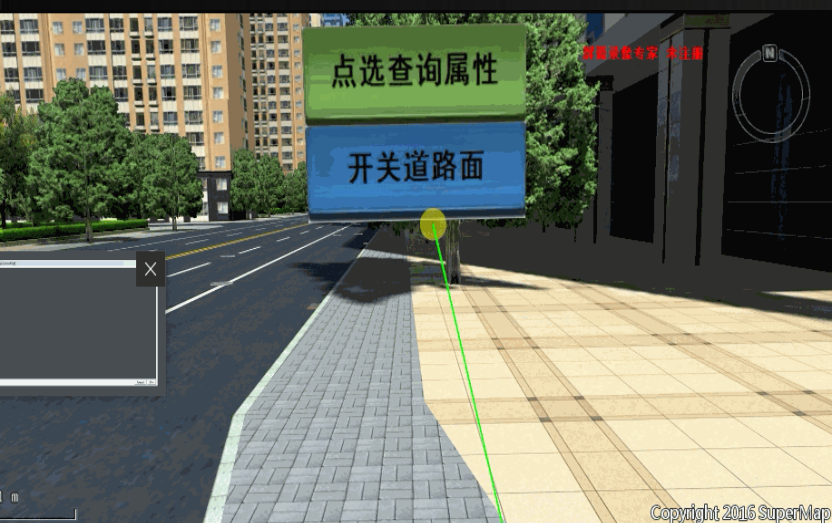
Portable experience



Lightweight experience



Cool experience



VR experience

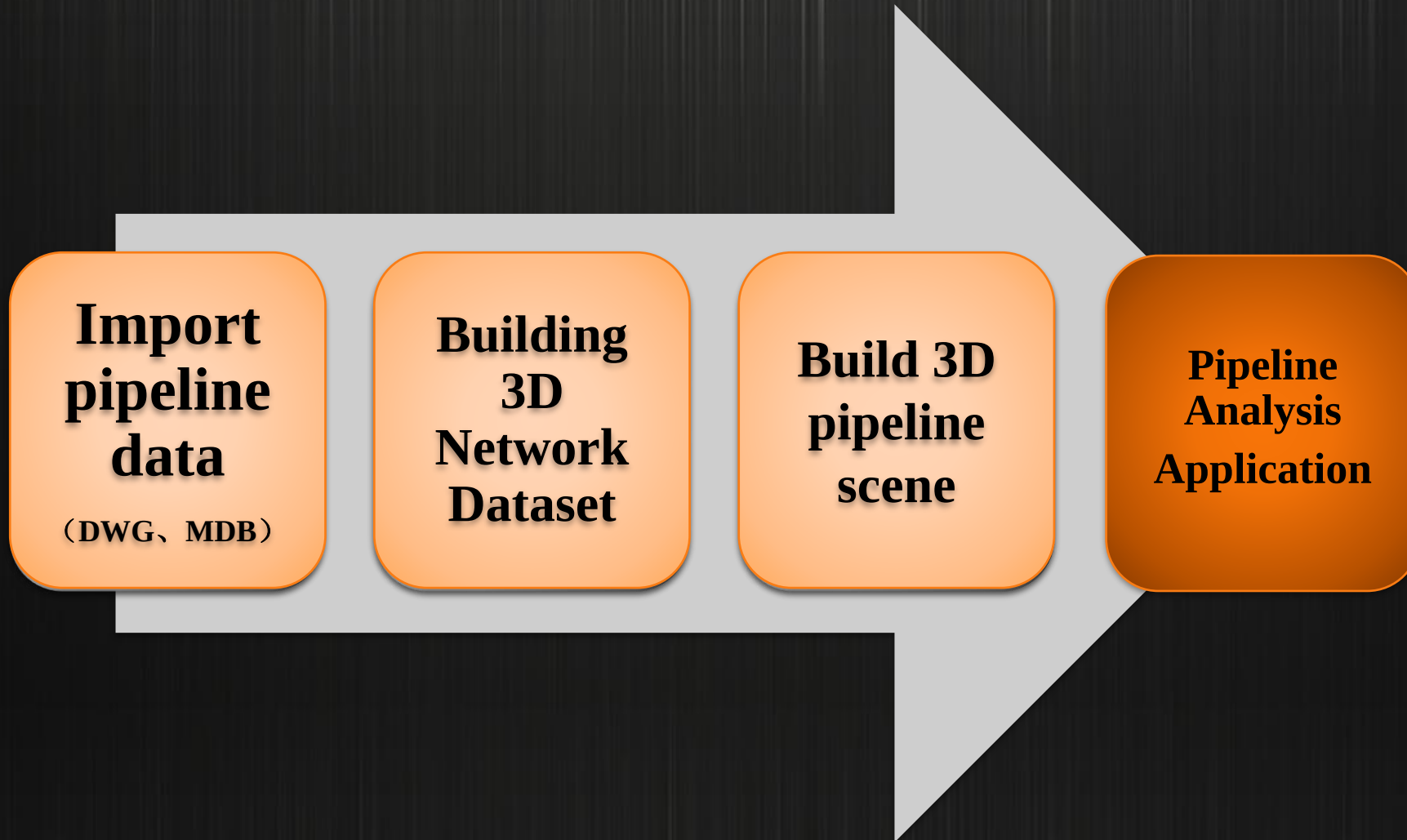


AR experience



Global experience

Pipeline Full Cycle Application Process



Pipeline Analysis Application

Most user requirements



- ◆ Cross-sectional analysis
- ◆ Profile Analysis
- ◆ Pipeline comparison
- ◆ ...

Analysis of data topological relationship



- ◆ Upstream and downstream analysis
- ◆ Connectivity analysis
- ◆ Planning Rule Base
- ◆ Spacing analysis
- ◆ Burial depth detection
- ◆ ...

Facility Operation Management Department



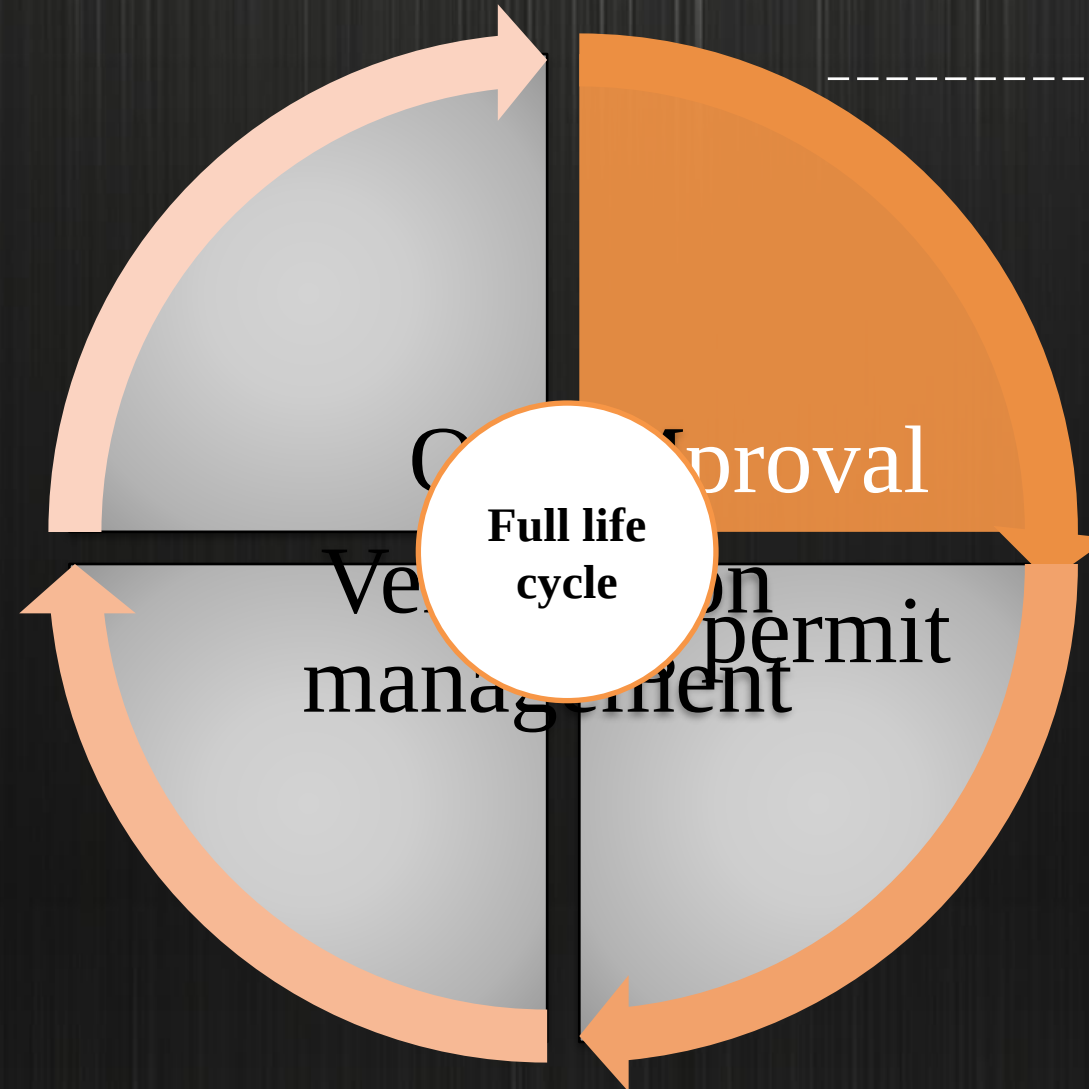
- ◆ Valve closing search
- ◆ Analysis of accident impact scope
- ◆ Leakage diffusion analysis
- ◆ ...

Requirements for installation and laying of facilities



- ◆ Engineering excavation analysis
- ◆ Weekly report detection and analysis
- ◆ Burial depth analysis
- ◆ Compliance analysis
- ◆ Buffer Analysis
- ◆ ...

Full Life Cycle



- Thematic map production
- Roller shutter contrast
- Status analysis
- Spatial query
- Attribute Query

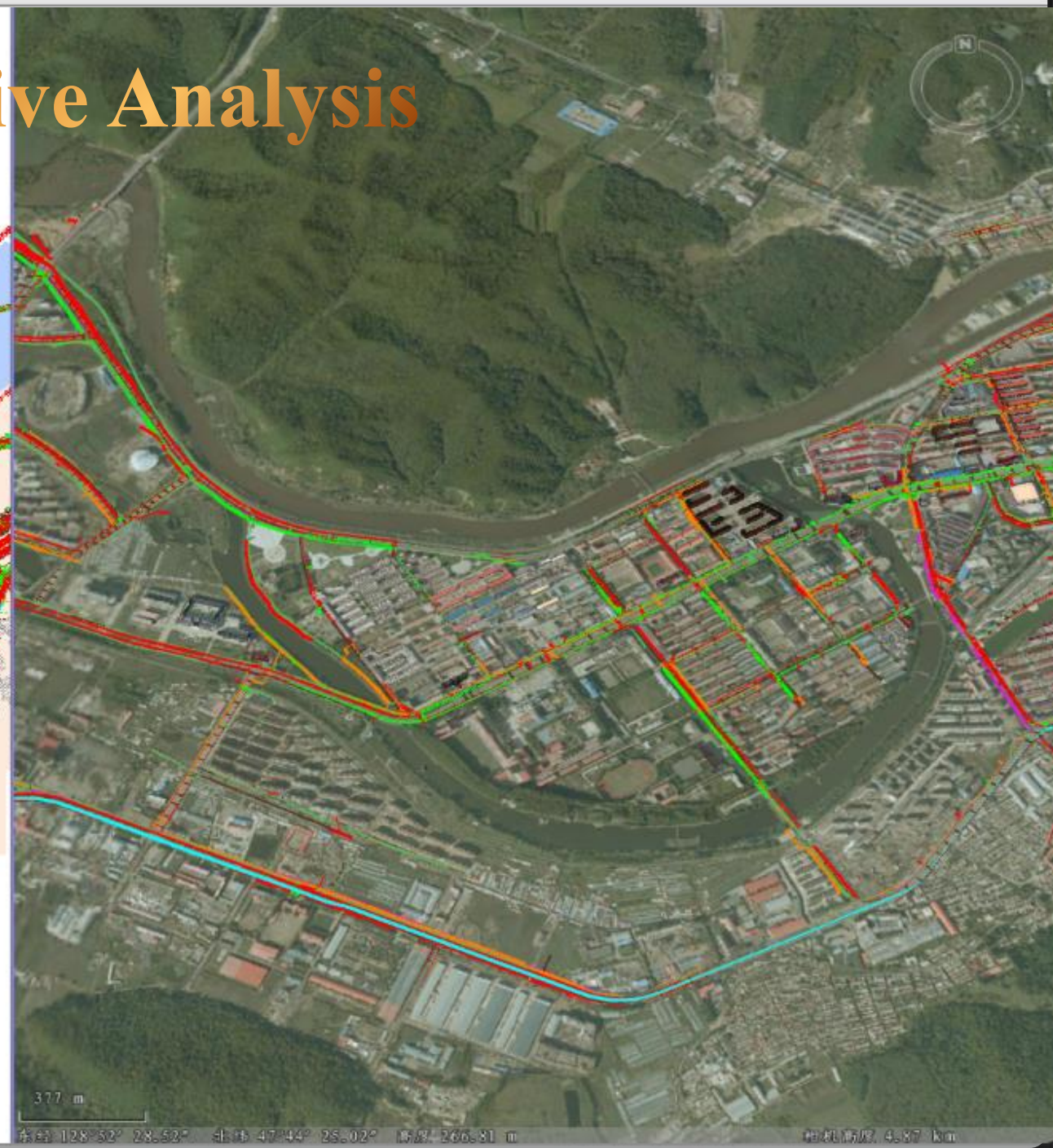


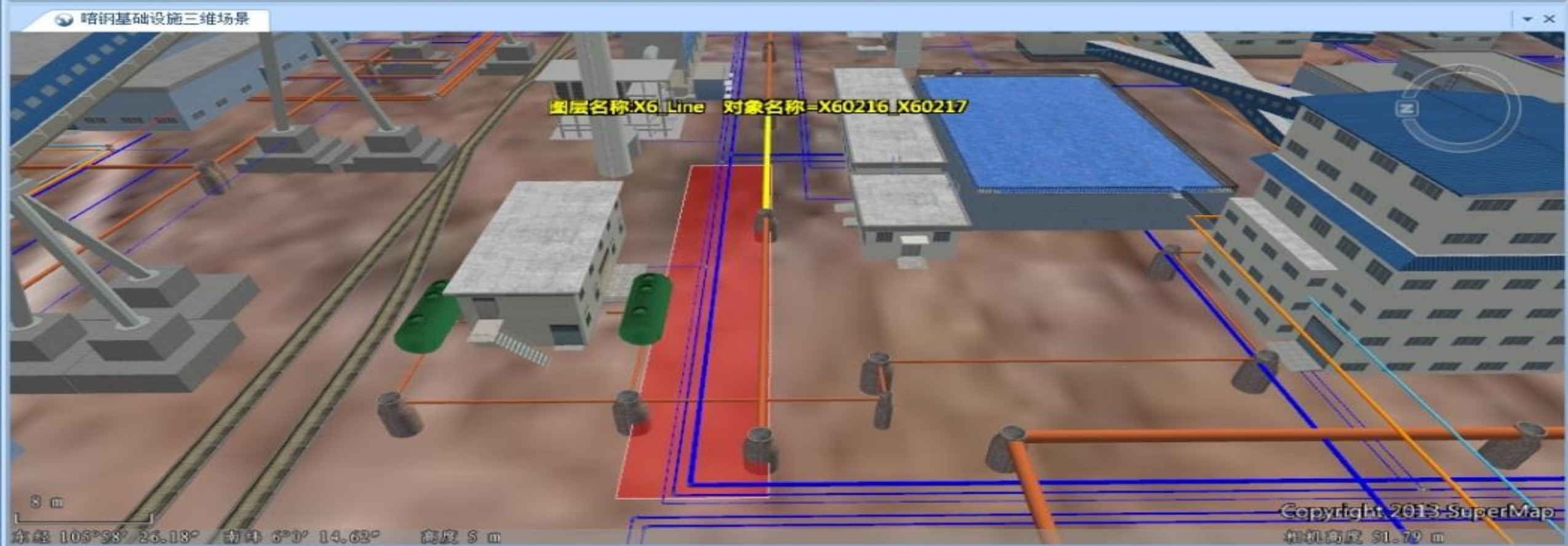
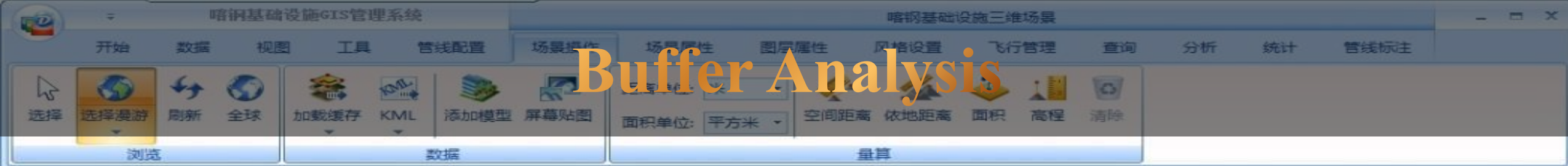
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Y坐标: 5288142.6883

比例尺: 1: 25000

Comparative Analysis



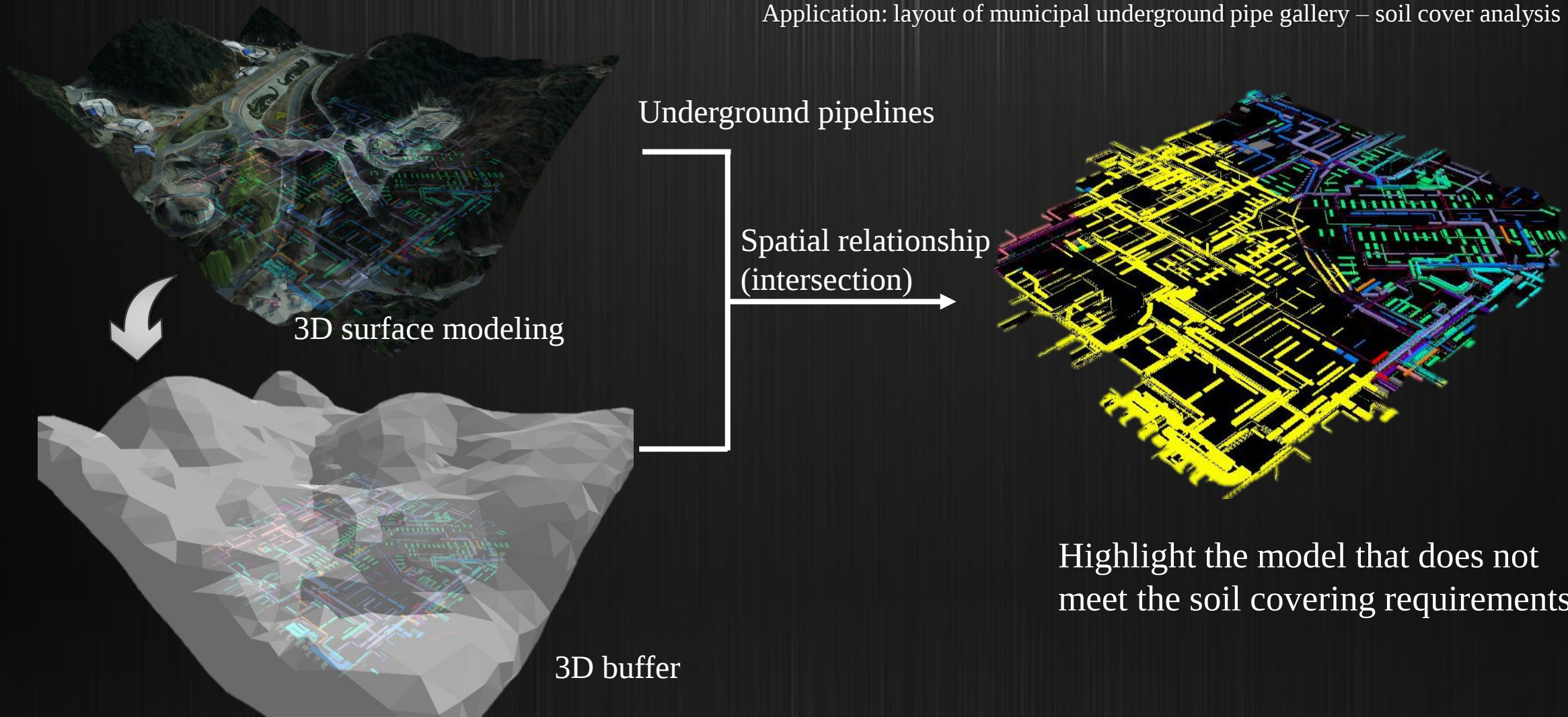


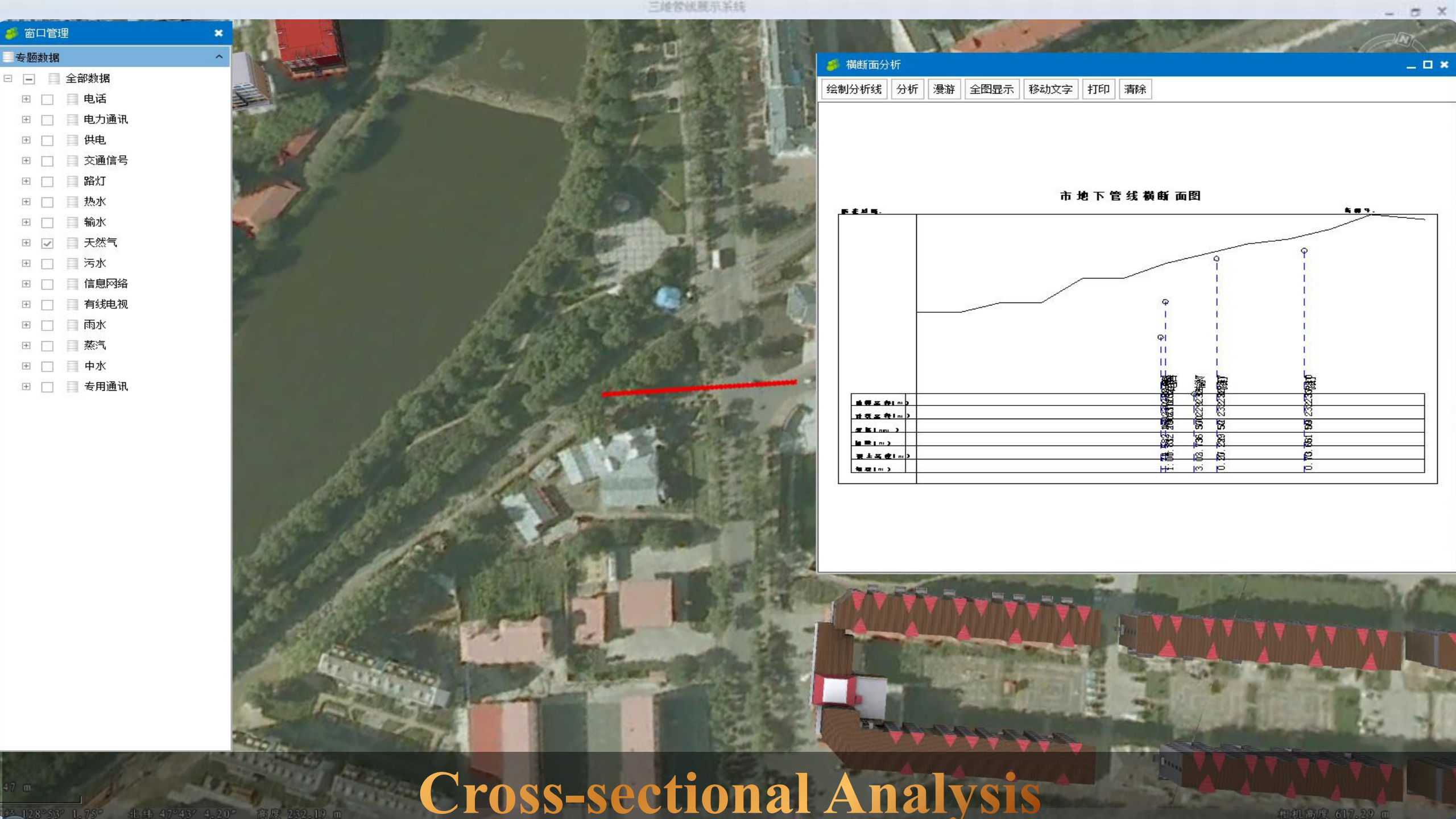
分析管理器

编号	SMID	SMUSERID	对象ID	对象名称	查询图层名	查询数据源
1	1	0	137	X60216_X60217	X6_Line	中冶数据
2	2	0	138	X60218_X60216	X6_Line	中冶数据
3	3	0	216	X60216	X6_Point	中冶数据
4	4	0	218	X60218	X6_Point	中冶数据
5	5	0	142	X20150_X20193	X2_Line	中冶数据

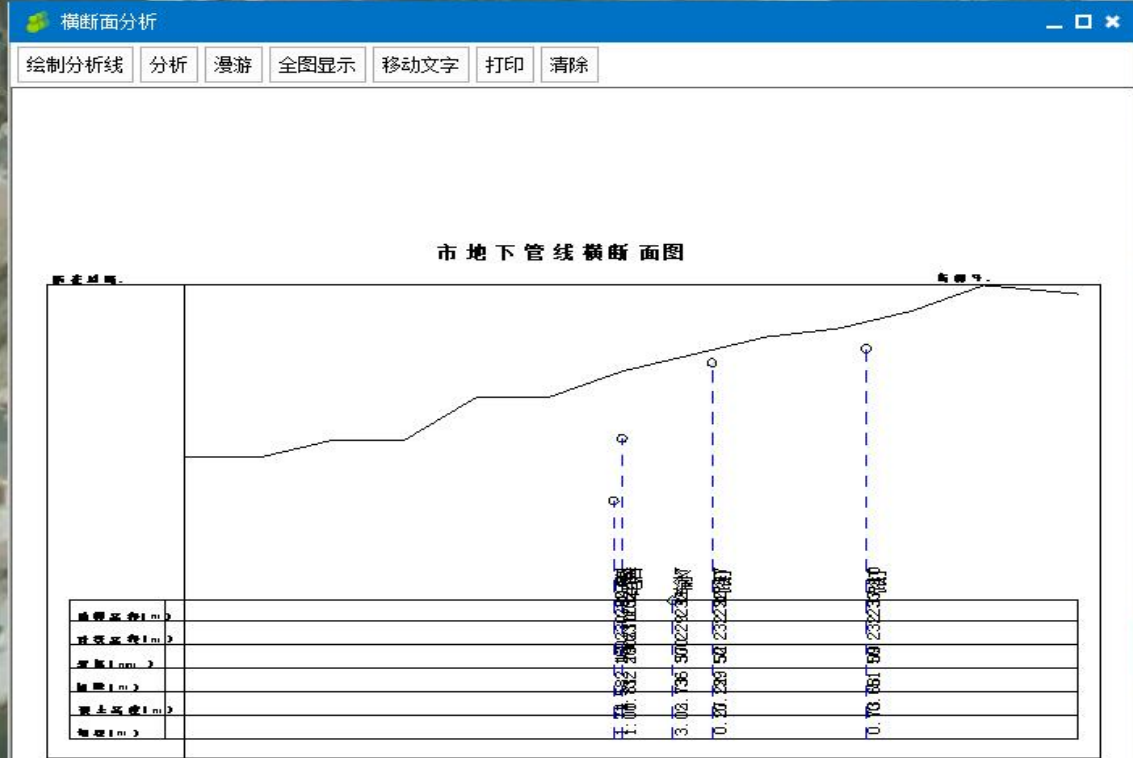
Overburden Analysis

Application: layout of municipal underground pipe gallery – soil cover analysis

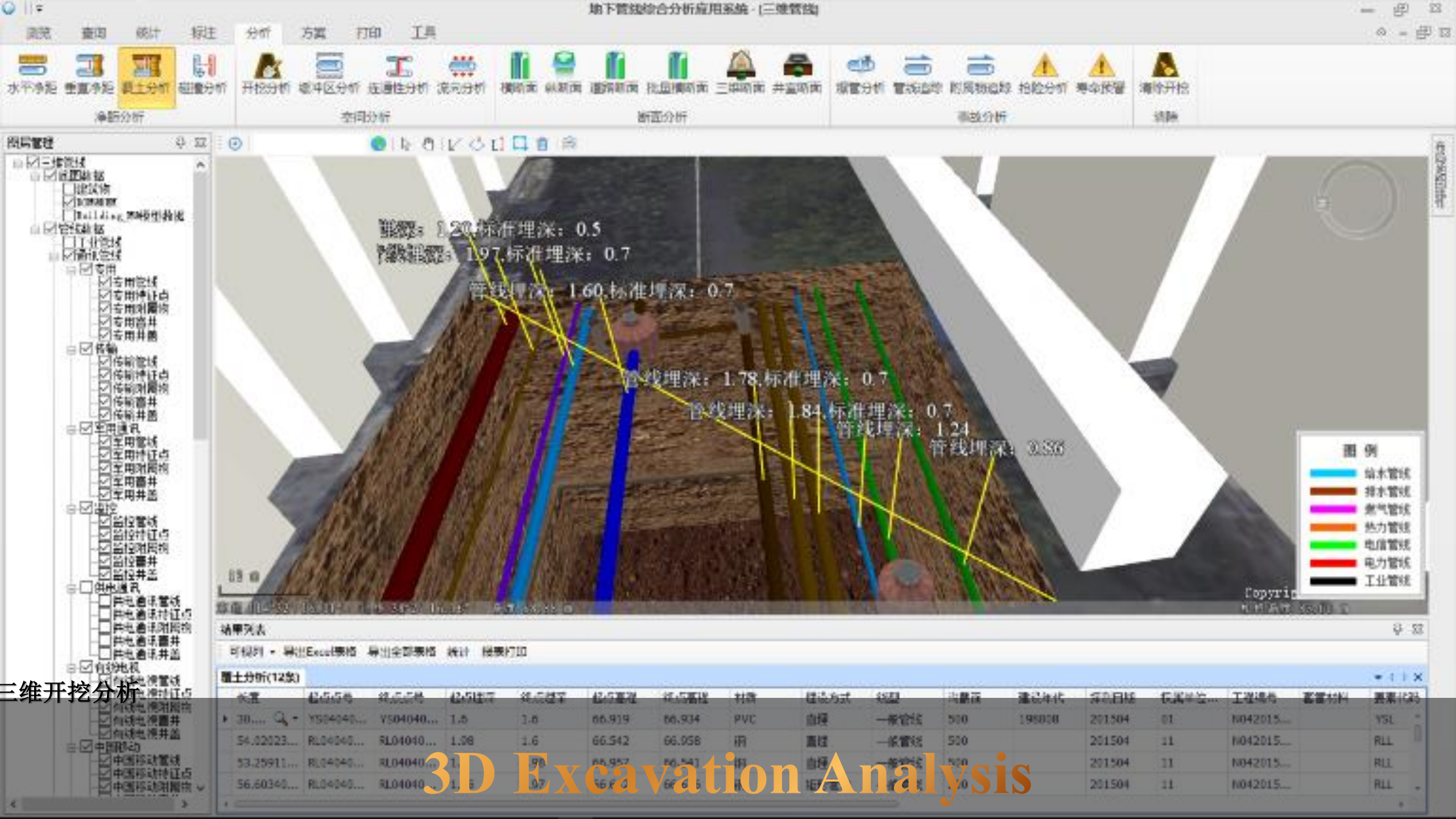




- 窗口管理
- 专题数据
- 全部数据
- ☐ 电话
 - ☐ 电力通讯
 - ☐ 供水
 - ☐ 交通信号
 - ☐ 路灯
 - ☐ 热水
 - ☐ 输水
 - ☒ 天然气
 - ☐ 污水
 - ☐ 信息网络
 - ☐ 有线电视
 - ☐ 雨水
 - ☐ 蒸汽
 - ☐ 中水
 - ☐ 专用通讯



Cross-sectional Analysis



三维开挖分析

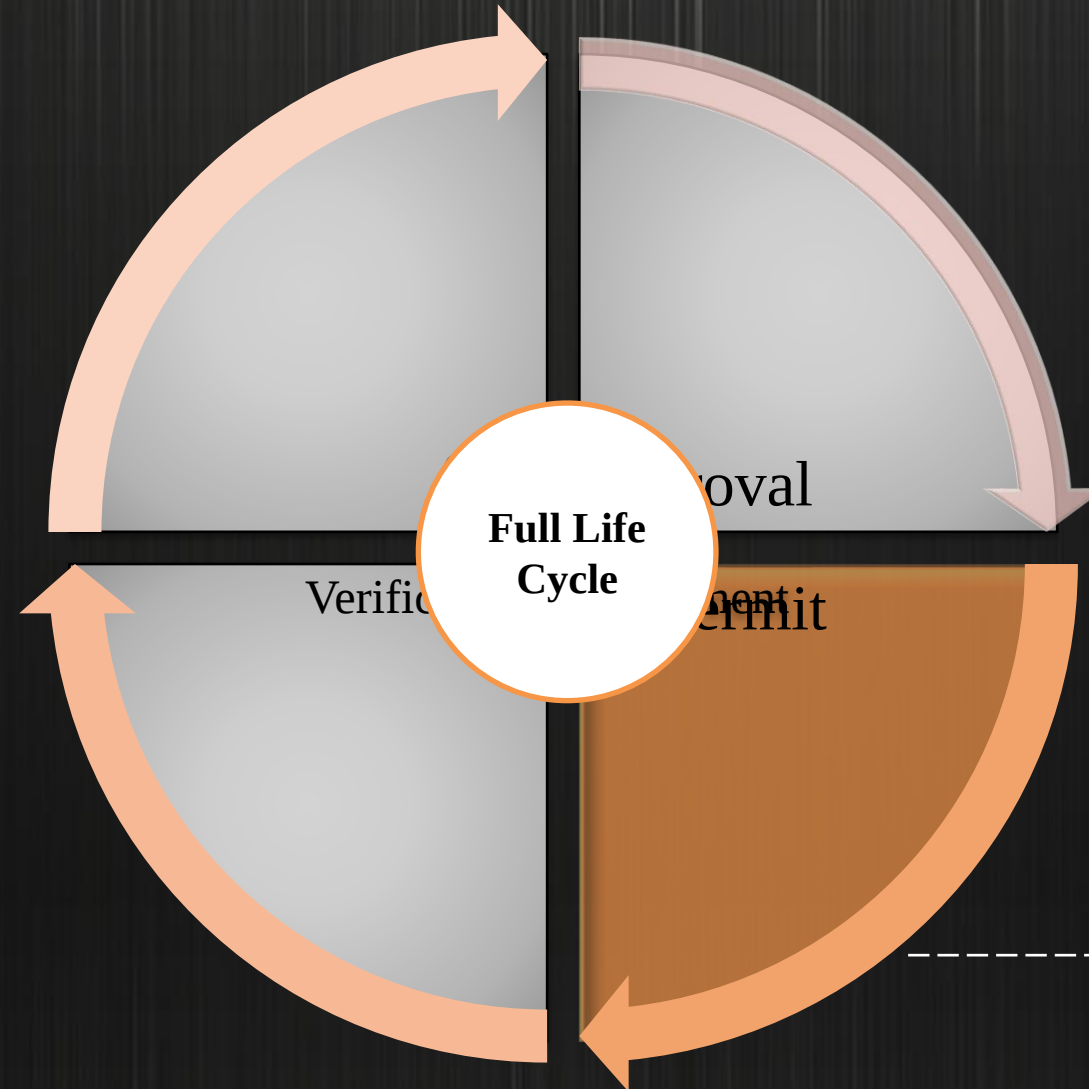
3D Excavation Analysis

Special Planning and Detailed Control Planning

Based on BIM+GIS technology, realize 2D and 3D integrated superposition display and auxiliary analysis of pipeline corridor planning, construction and current data.

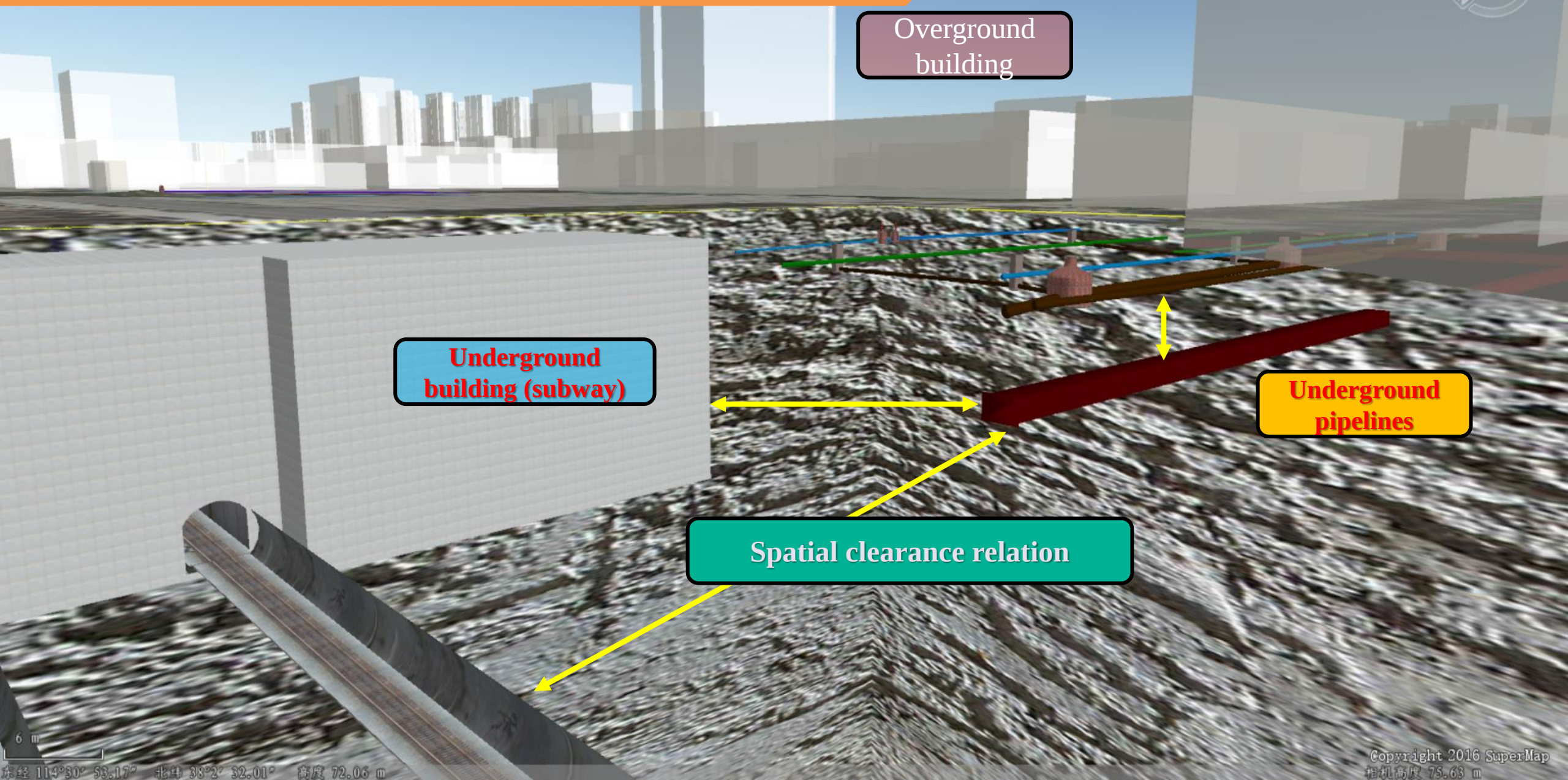


Full Life Cycle

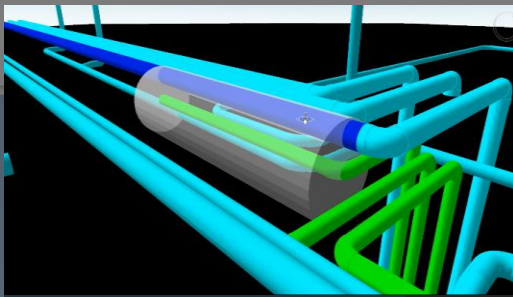
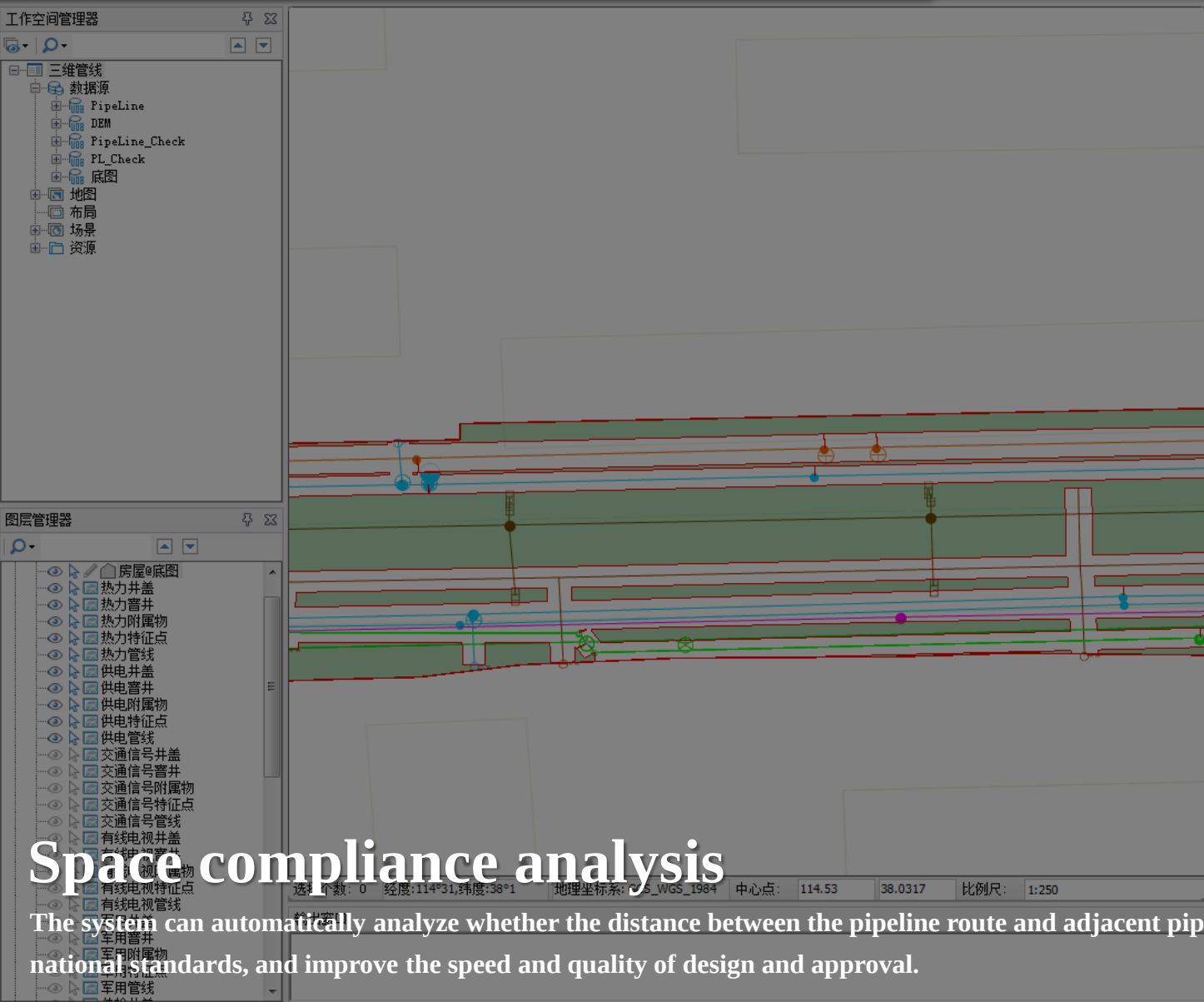


- Contrast View
- Analog simulation
- Progress tracking
- Major equipment monitoring

Comprehensive management of urban space



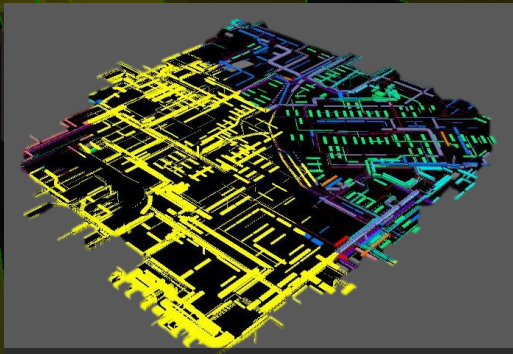
Space compliance analysis



Buffer Analysis



Distance Analysis

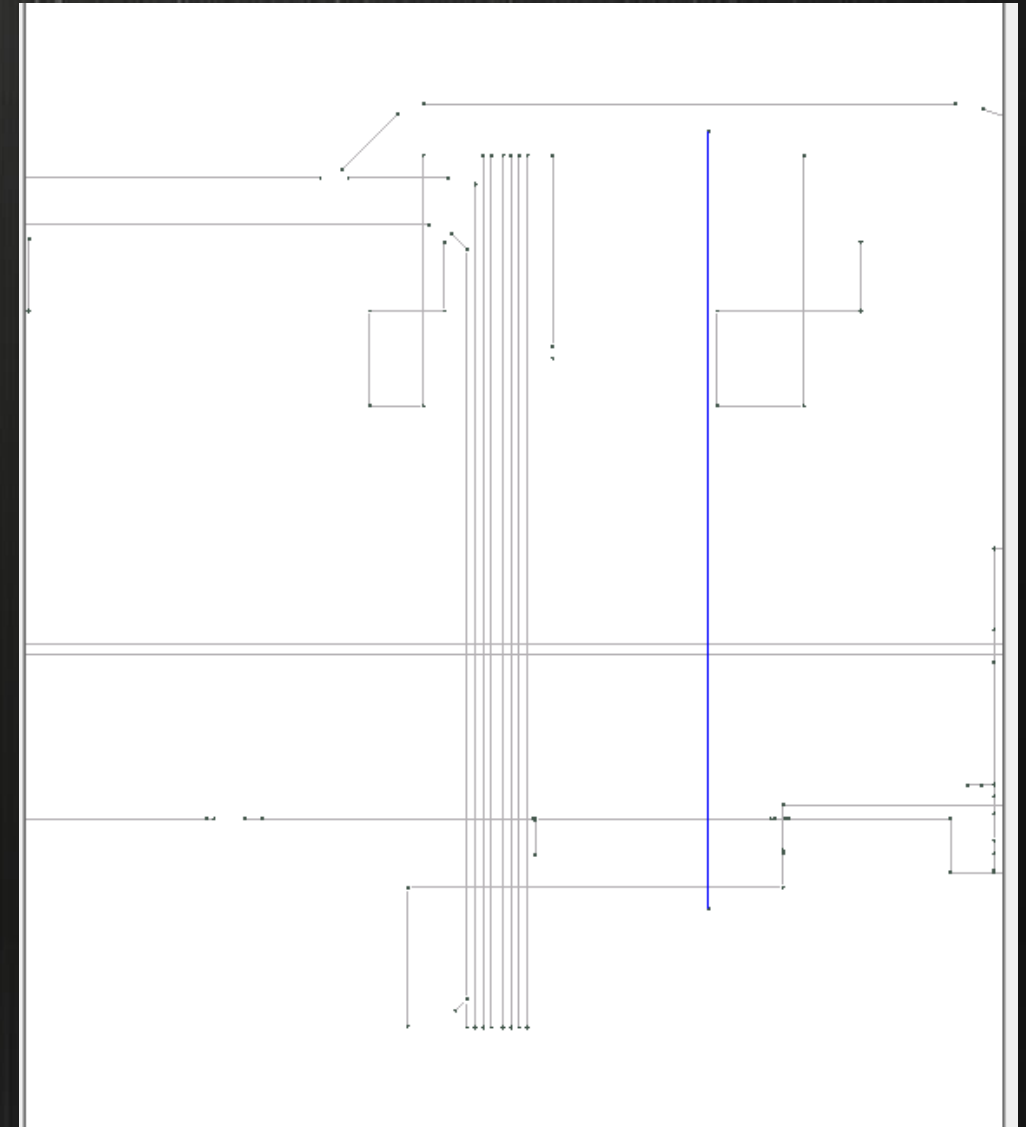
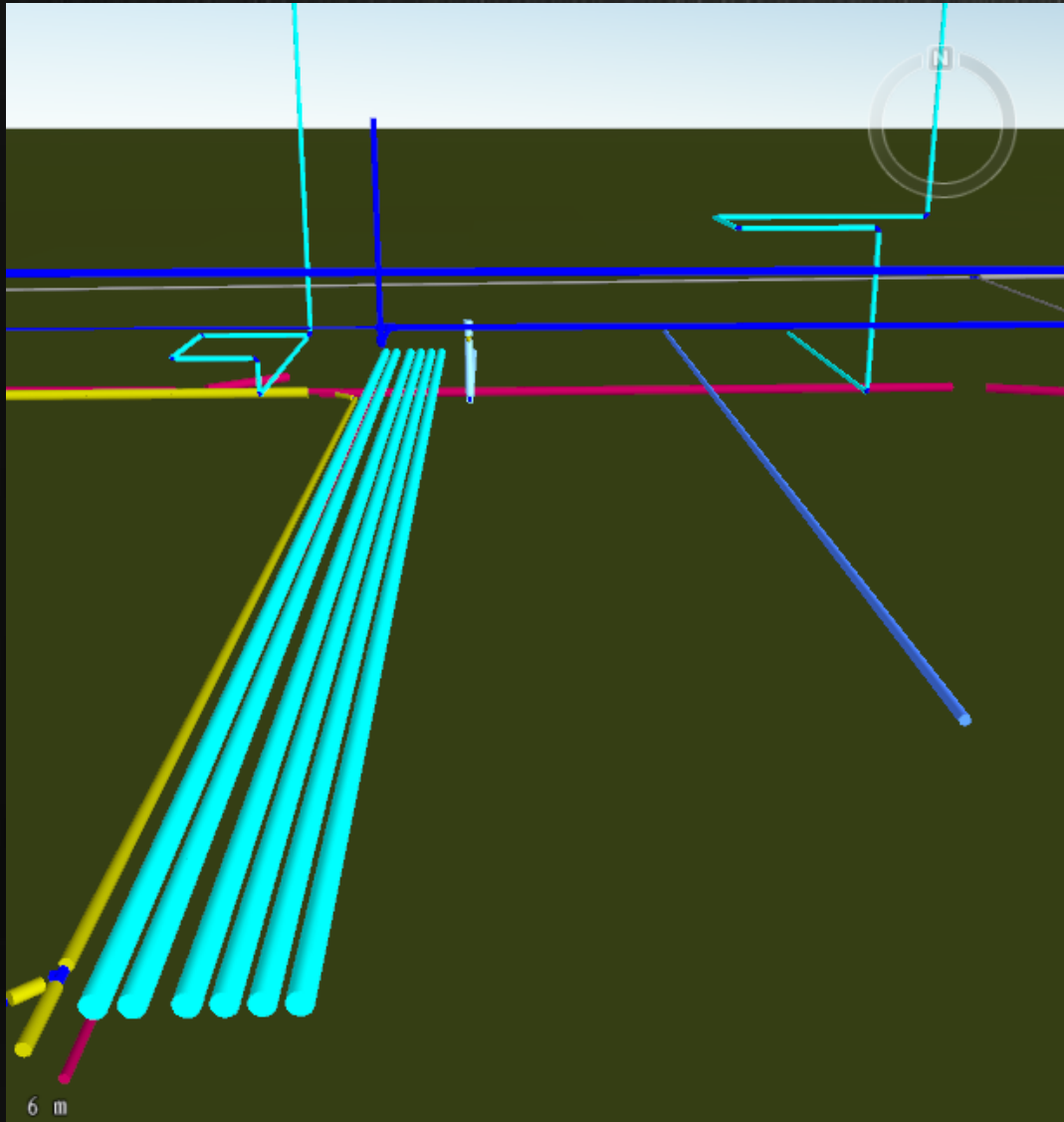


Overburden Analysis

Space compliance analysis

The system can automatically analyze whether the distance between the pipeline route and adjacent pipelines meets the national standards, and improve the speed and quality of design and approval.

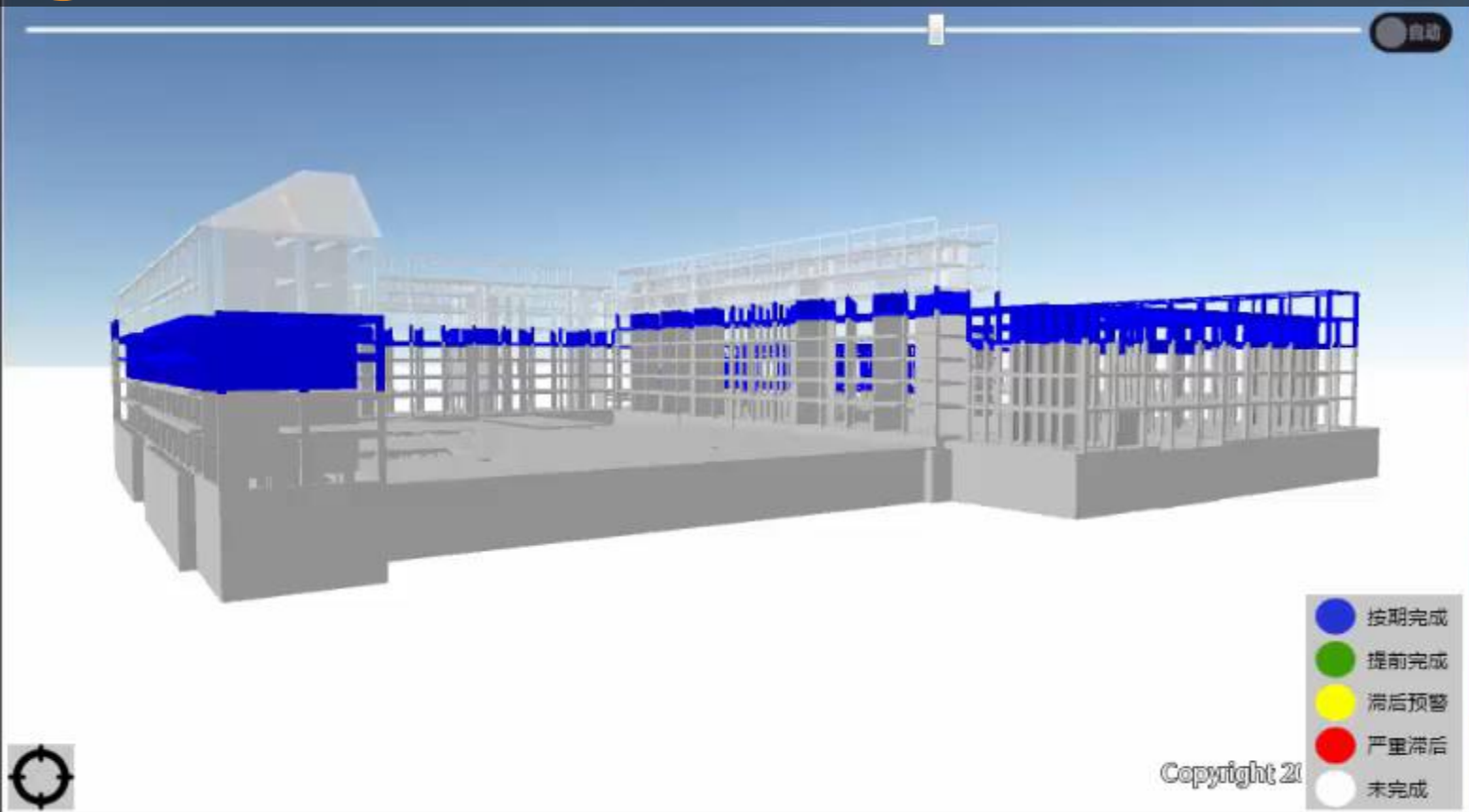
Dimension reduction calculation (BIM 3D pipeline dimension reduction)



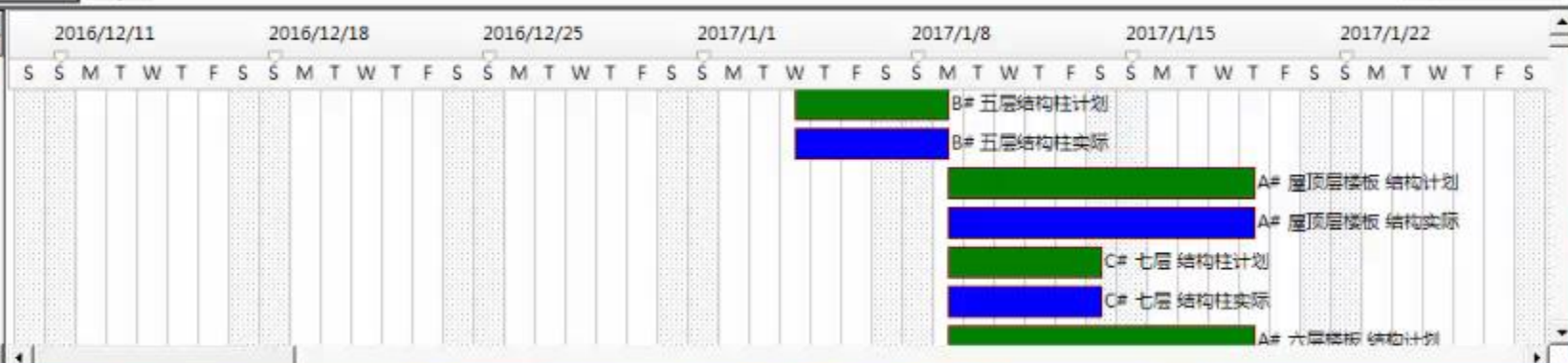


◀ 2016年12月 ▶						
周日	周一	周二	周三	周四	周五	周六
27	28	29	30	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31
1	2	3	4	5	6	7

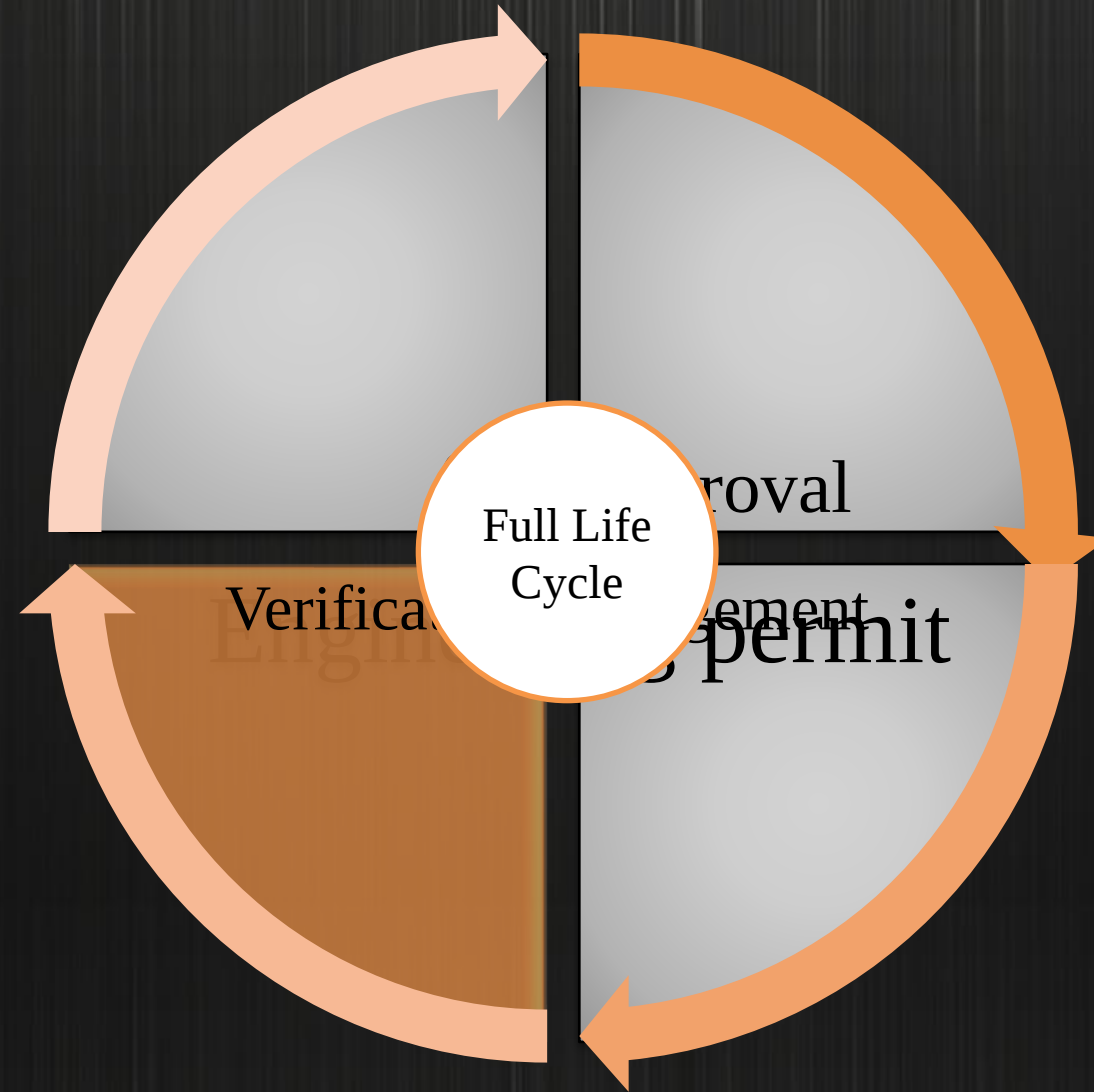
Process Management Analysis



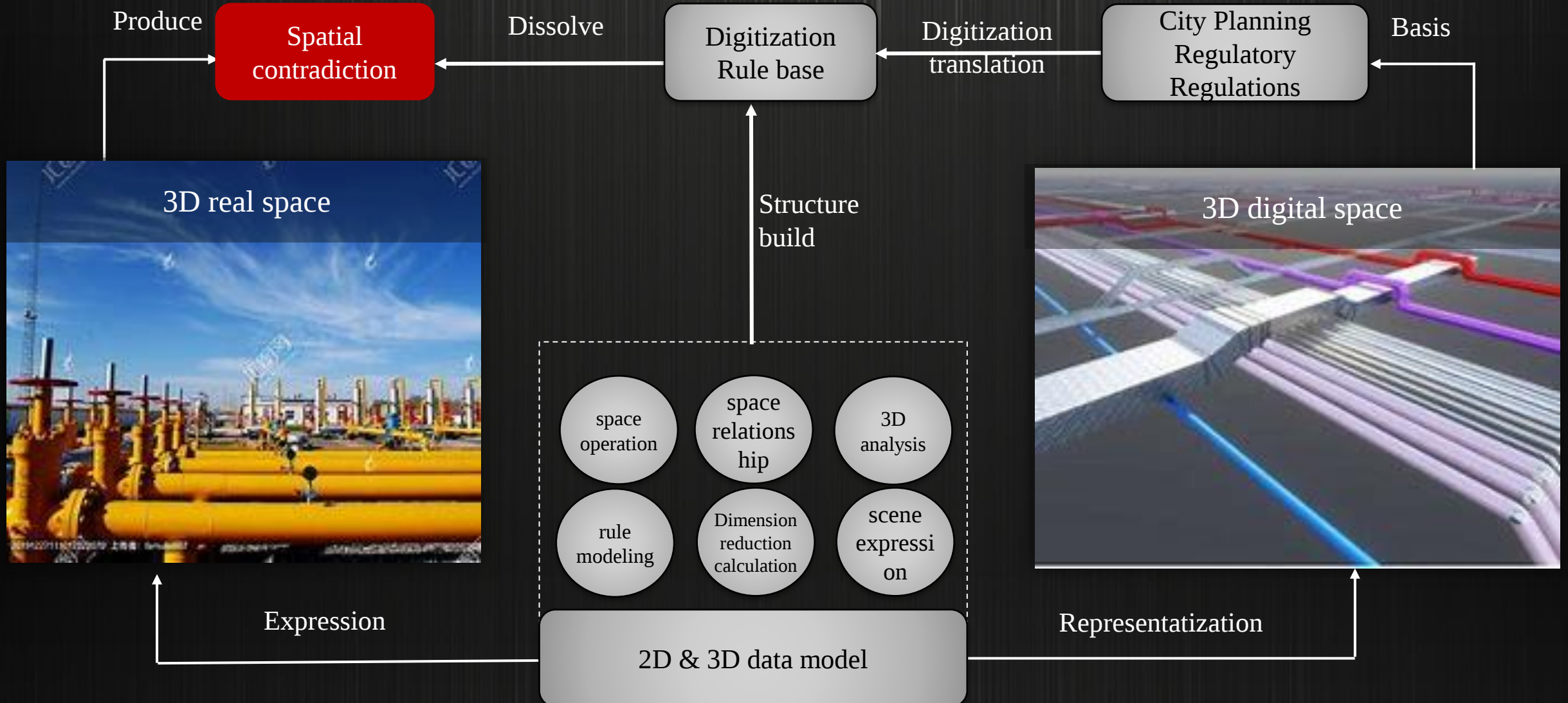
任务名称	计划开始	计划结束	实际开始	实际结束	工期(天)
B# 五层结...	2017/1/4	2017/1/9	2017/1/4	2017/1/9	5
A# 顶层...	2017/1/9	2017/1/19	2017/1/9	2017/1/19	10
C# 七层结...	2017/1/9	2017/1/14	2017/1/9	2017/1/14	5
A# 六层楼...	2017/1/9	2017/1/19	2017/1/9	2017/1/19	10
C# 七层楼...	2017/1/9	2017/1/14	2017/1/9	2017/1/14	5
A# 六层结...	2017/1/9	2017/1/19	2017/1/9	2017/1/19	10
A# 六层结...	2017/1/9	2017/1/19	2017/1/9	2017/1/19	10
A# 屋顶梁...	2017/1/9	2017/1/19	2017/1/9	2017/1/19	10
A# 屋顶层...	2017/1/9	2017/1/19	2017/1/9	2017/1/19	10



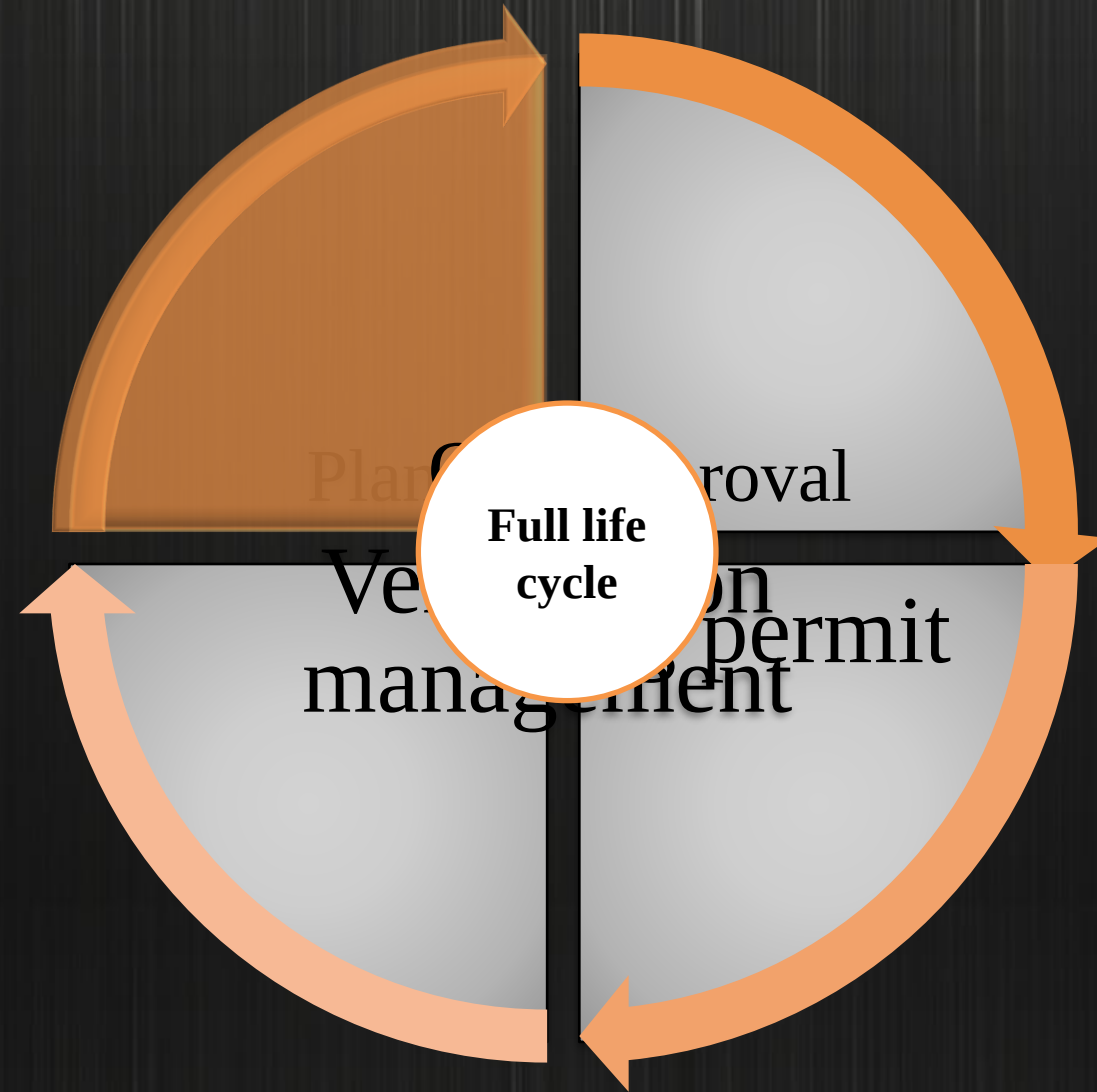
Full Life Cycle

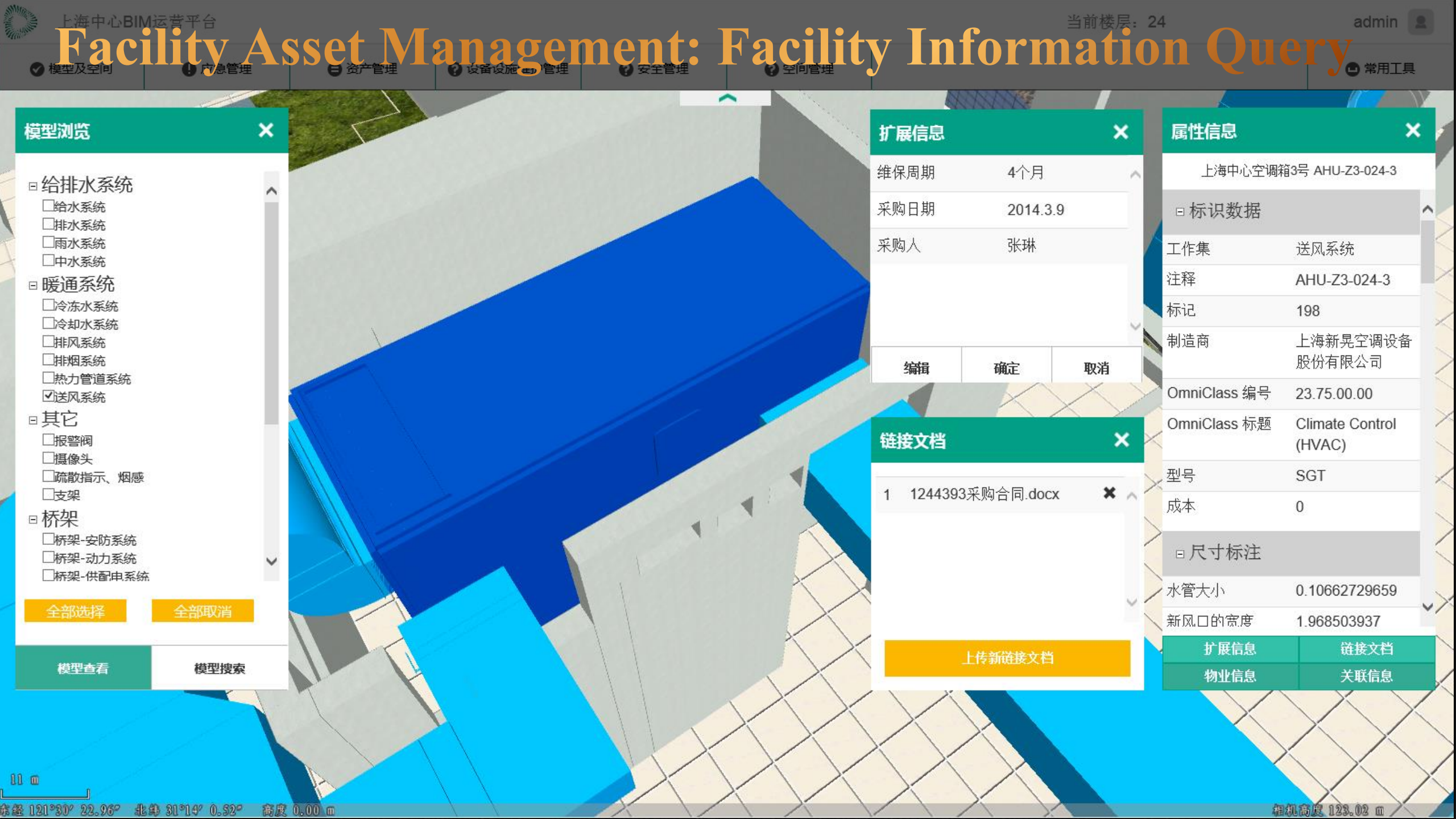


Technology Roadmap



Full Life Cycle





Facility Asset Management: Facility Information Query

模型及空间

应急管理

资产管理

设备设施管理

安全管理

空间管理

常用工具

模型浏览

给排水系统

- ☐ 给水系统
- ☐ 排水系统
- ☐ 雨水系统
- ☐ 中水系统

暖通系统

- ☐ 冷冻水系统
- ☐ 冷却水系统
- ☐ 排风系统
- ☐ 排烟系统
- ☐ 热力管道系统
- ☒ 送风系统

其它

- ☐ 报警阀
- ☐ 摄像头
- ☐ 疏散指示、烟感
- ☐ 支架

桥架

- ☐ 桥架-安防系统
- ☐ 桥架-动力系统
- ☐ 桥架-供配电系统

全部选择

全部取消

模型查看

模型搜索

扩展信息

维保周期	4个月
采购日期	2014.3.9
采购人	张琳

编辑

确定

取消

链接文档

1 1244393采购合同.docx

上传新链接文档

属性信息

上海中心空调箱3号 AHU-Z3-024-3

标识数据

工作集	送风系统
注释	AHU-Z3-024-3
标记	198
制造商	上海新晃空调设备股份有限公司

OmniClass 编号 23.75.00.00

OmniClass 标题 Climate Control (HVAC)

型号 SGT

成本 0

尺寸标注

水管大小 0.10662729659

新风口的密度 1.968503937

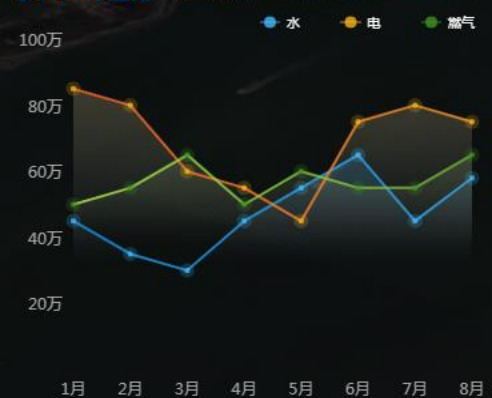
扩展信息

链接文档

物业信息

关联信息

2018年能耗



8月份能耗



能耗异常报警

中心医院-用水量超出阈值52.4%	2018.09.19 23:32:00
中心医院-耗电量超出阈值86.7%	2018.09.19 23:32:00
中心医院-燃气量超出阈值92.9%	2018.09.19 23:32:00
嘉丽广场-用水量超出阈值16.7%	2018.09.19 22:32:00
嘉英大厦-用水量超出阈值16.7%	2018.09.19 21:32:00
天虹百货-燃气量超出阈值12.3%	2018.09.19 20:50:00
亿力大厦-用水量超出阈值44.4%	2018.09.19 19:32:00
亿力大厦-燃气量超出阈值18.0%	2018.09.19

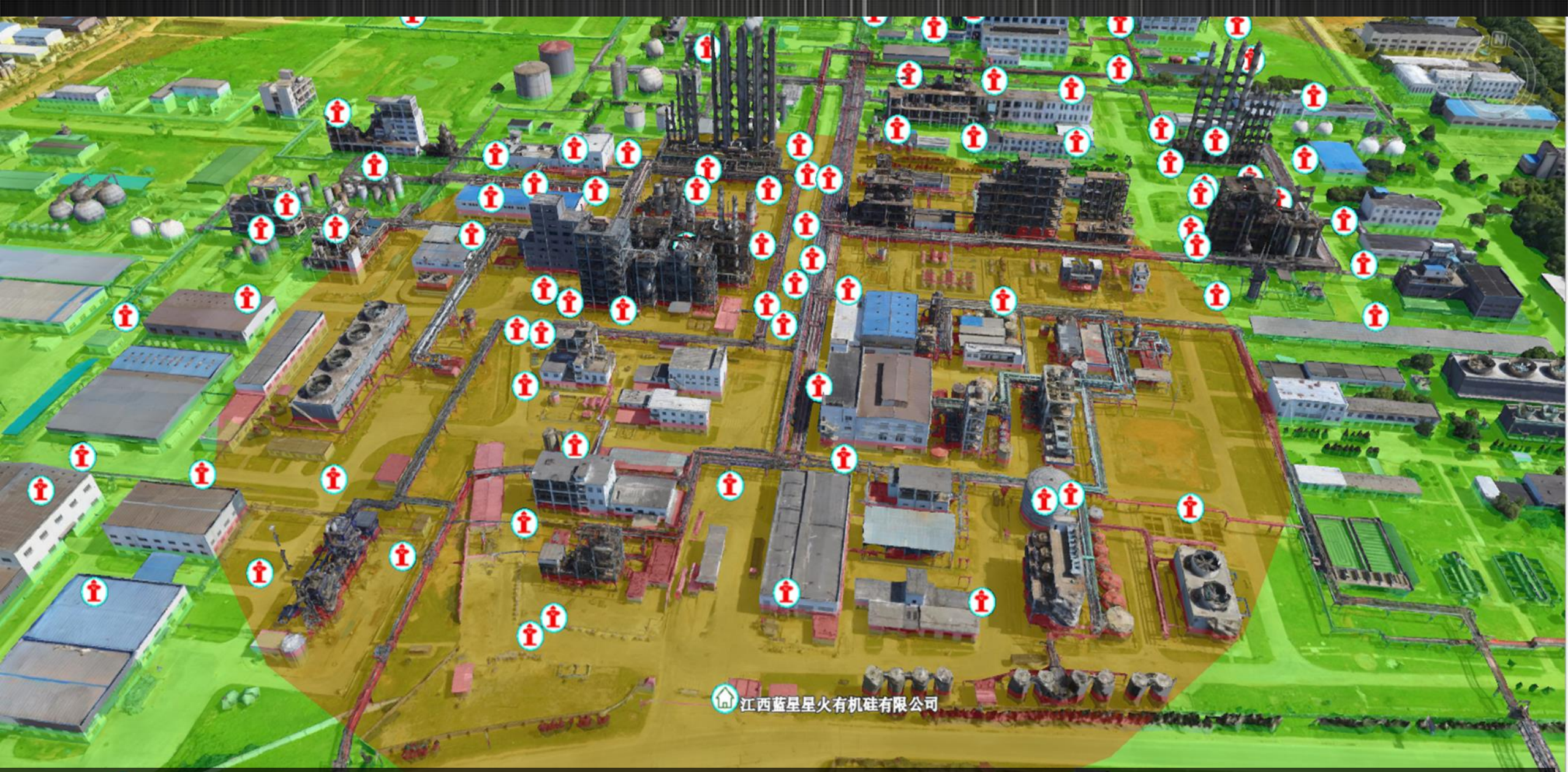


周期

耗水分布

耗电分布

耗气分布



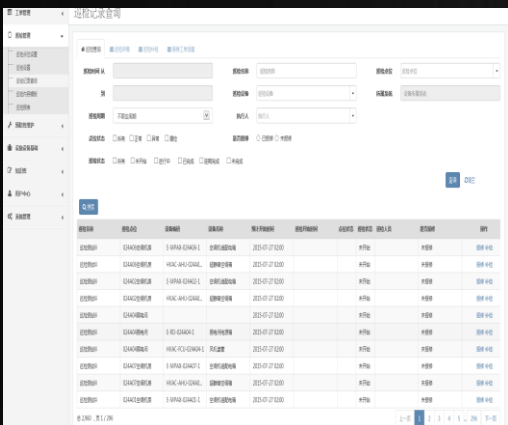
江西蓝星星火有机硅有限公司

Facility Working Status and Scope Query

115°43' 45.52" 北纬 29°3' 25.72" 海拔 0.00 m

Copyright 2016 SuperMap
相机高度 265.09 m

Mobile Patrol Intelligent Collection





物资点名称: 2号救援点

物资点名称: 1号救援点

物资点名称: 3号救援点

泄漏模拟

风向: 东

风级: 1

扩散时间: 5 分钟

物资半径: 1000 米

泄漏点

清除



泄露统计

安全警示...

安全状态...

泄漏模拟

应急预案



Pipeline Burst Analysis

Cases



"Underground Meridians" of Beijing Urban Sub center

Application Scenario

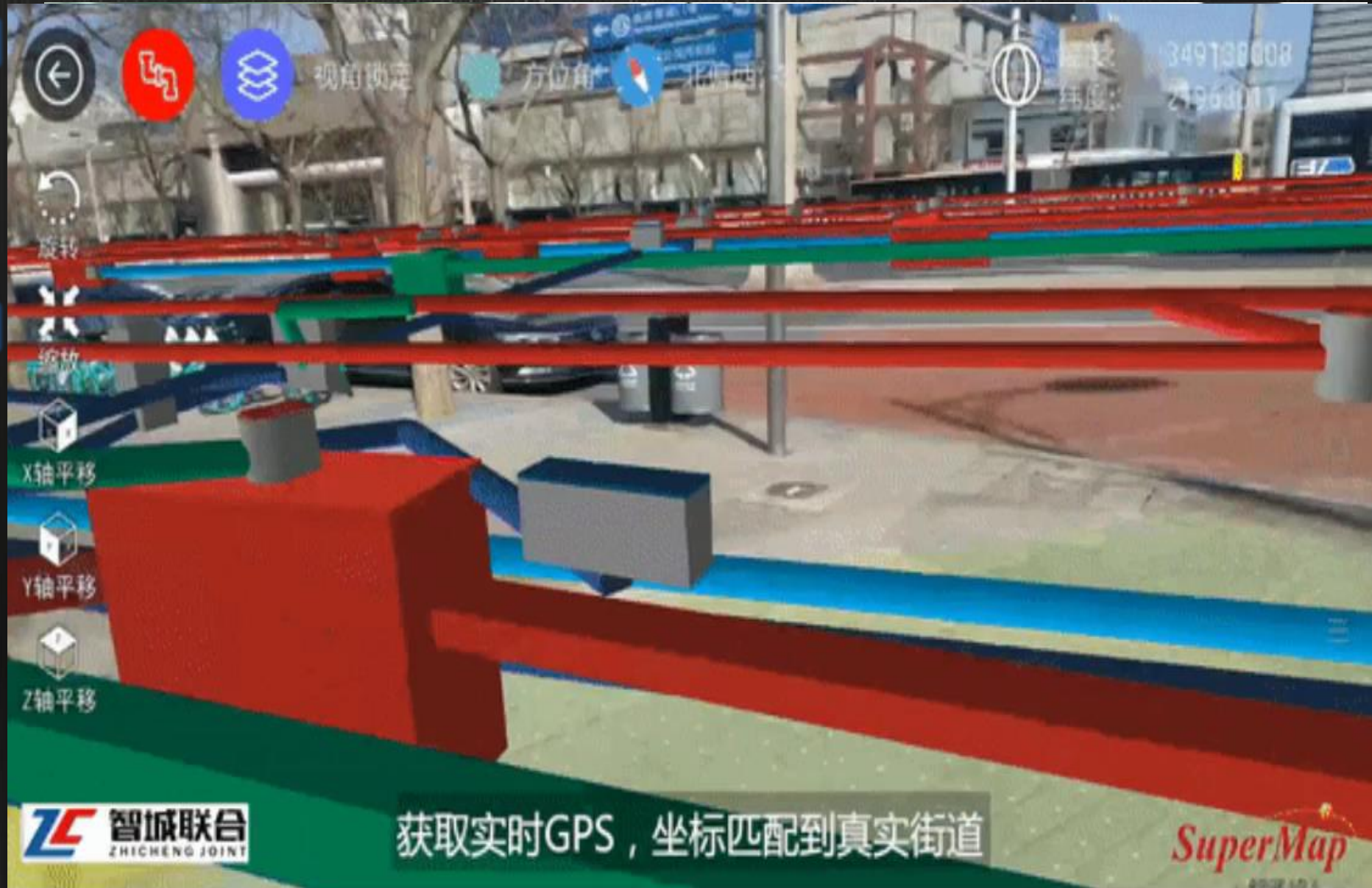
Auxiliary Design and
Management of Urban
Comprehensive Pipeline

Technical Means

2D&3D integration scenario
construction AR
visualization

Main Business

1. 3D integrated management of ground and underground in the whole area
2. Underground pipeline construction safety supervision
3. Pipeline data query service
4. Data update
5. Emergency response



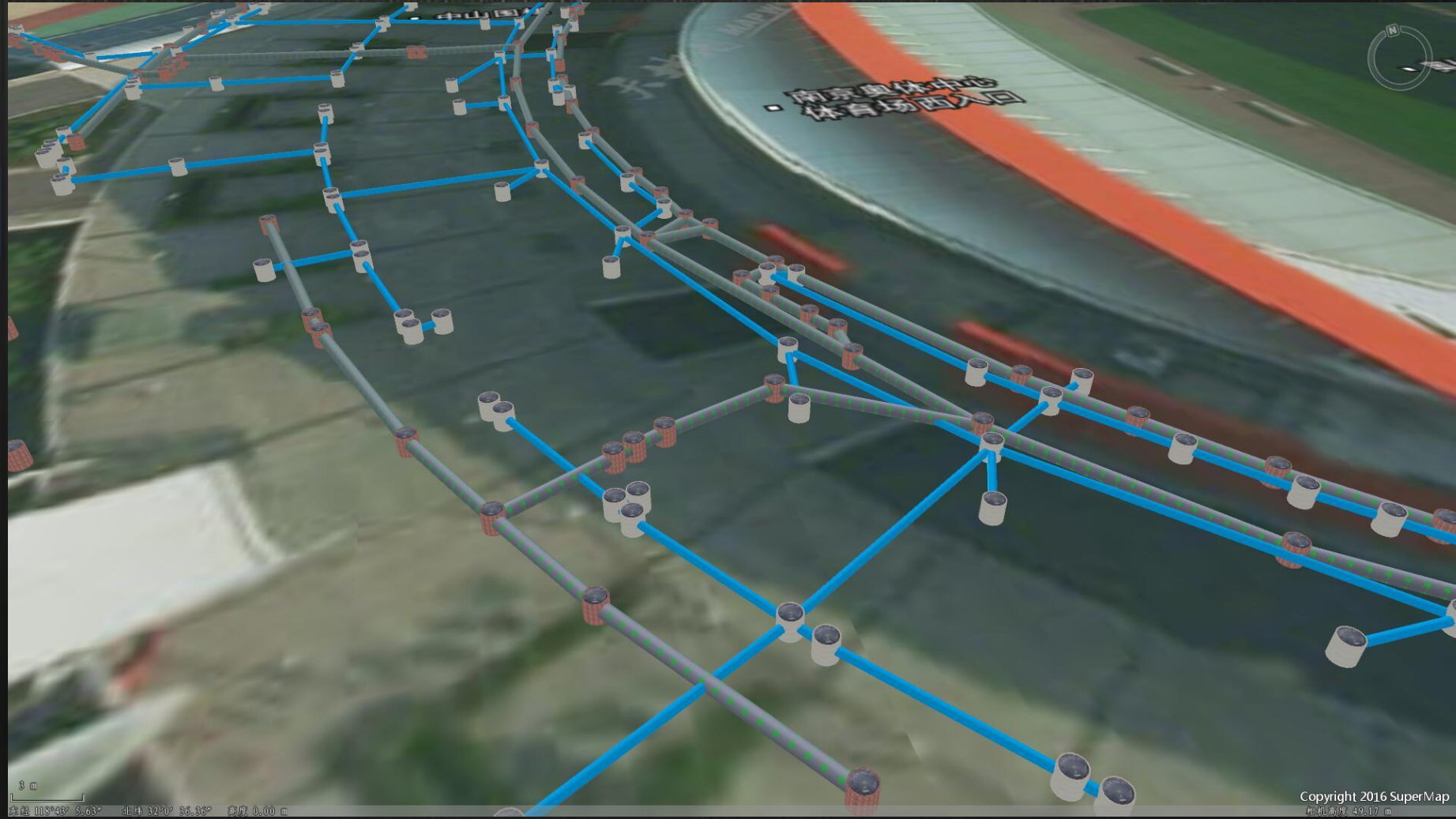
Nanjing Sewage Treatment Supervision Information Platform System

Technical Means

- Docking central control equipment of sewage treatment plant
- Docking with video monitoring of sewage treatment plant, supporting real-time viewing and video playback
- A picture of sewage
- Docking Beidou positioning equipment and positioning sludge truck
- 3D pipeline

Main Business

1. Supervision and management of construction and operation of sewage treatment facilities
2. Collect six categories of data such as sewage plant operation data and sludge treatment data
3. Management, analysis and assessment of sewage treatment in the area



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Thank You!