

C5PLAN-G'S **T-PCS**
Total Pre Construction Solution

**We make you sure to provide the solution by
the time & way of customer's need.**

T-PCS of C5PLAN-G makes sure to provide the solution by timely fashion and the way of customer's need.
We thoroughly analyze and review the construction plan using accumulated big data platform based on the abundant practical experience and expertise accumulated through various projects. Providing the best solution to our customers will greatly contribute to the success of the project.



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The **PACEMAKER**
by Your Side



Every moment from bidding to construction completion,
C5PLAN-G will be your reliable partner in everywhere.



Greetings

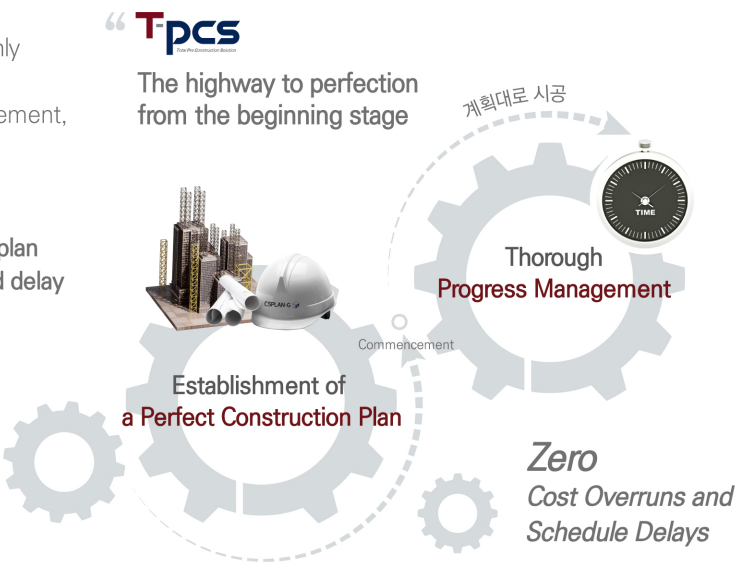
 optimized for fast-changing construction trends

C5PLAN-G presents solutions optimized for rapidly changing construction trends
Due to social changes such as strengthening safety regulations, lack of construction technical manpower, application of 52 hours a week, and climate change, **construction sites are rapidly increasing in cost and construction period.**

To overcome the current situation, various construction projects are applying various safe and **rapid construction methods** to respond to the changing construction environment, such as OSC construction method, system construction method, modular application, etc.

To this end, the construction execution plan is thoroughly simulated and established at the **pre-con stage**, and during construction, through thorough progress management, we are striving to **prevent unnecessary increases** in construction period and construction cost, construction cost and misconstruction
C5PLAN-G will establish a complete pre-construction plan through T-PCS and implement zero construction period delay and increase construction cost through thorough on-site process progress management.

Sehyeon Lim, Chief Executive Officer



Corporate History

2005	2014	2020	2024
2005 Establishment of C5PLAN 2007 Establishment of C5PLAN-G Co. Ltd 2008 Execution of the first BIM project 2010 Execution of the first private sector project as a PM Execution of the first public sector proposal project Execution of the first digital construction execution planning project 2011 Execution of the first overseas proposal project	2014 Execution of first construction BIM 2015 Launching construction consulting system Construction execution plan with BIM Construction consulting for general hospital project 2017 Execution of PM for LH(CM for Fee) Launching 4D simulation Launching Corporate Research Institute 2019 Launching smart construction	2020 Execution of PM for high-difficulty comprehensive bidding(Applying Synchro 4D Pro) 2021 Construction execution planning in initial stage BIM modeling automation(Builderhub, add-on civil solution) Oversea BIM modeling team(Vietnam) 2022 Real-time Q'ty calculation solution for zoning plan 4D Progress control management project, Overseas(Vietnam)	2023 Nuclear power plant project with BIM & 4D simulation Patent of automatic generation system of geological modeling 2024 Rebar & steel shop team Certification of ISO 9001 Quality management systems Certification of ISO 14001 environmental management system Launching T-PCS
Execution of approximately 20 projects annually with construction companies ranked in the top 50 in Korea	Securing expertise in the utilization of BIM for construction execution plan & planning	For rapid & accurate plan Automation system	For One-stop solution  Launching

Organization



Competence & Partners

Skilled & Qualified Pre-con Specialist



Certification of patent for automatic generation system of geological modeling

Company-affiliated research institute

Venture business certification

Certification of ISO 9001 Quality management systems

Certification of ISO 14001 environmental management system

Copyright of ACE

계룡건설	KOOJE 국제건설	금호건설	남양건설(주)	대경건설(주)	대영건설	대우건설	동부건설	동양건설산업
두산건설	IDL Construction	DL E&C	롯데건설	삼성물산	SAMSUNG E&A	서해종합건설	서희건설	성원건설
SUNGJEE	신세계건설	신한종합건설(주)	쌍용건설	대한방문	S&I Corp.	SGC E&C	SK 에코플랜트	HDC 현대산업개발
우미건설	일성건설(주)	일신건설	JEIL 제일건설	중흥그룹	GS E&C	KCC KCC건설	코오롱글로벌	TAEYOUNG 태영건설
POSCO 포스코아연빌	Hanbek 한백건설	HJ 중공업	한화건설	현대건설	현대엔지니어링	HS 화성	Gansam	Kon 컨설팅
NOW Architects	DONGWOO Architects & Consultants	D&B	da architecture group	dmp	법건축	SAM00	EGA GROUP	Chang-jo (ARCHITECTS)
토목건축	HAEAHN ARCHITECTURE	heerim ARCHITECTS & PLANNERS						

※ The company name is in spalling order.

Performance in various fields



- 1 Ewha Women's University 2nd Affiliated Hospital & College of Medicine

3 Jayang1 Urban Reorganization(Complex)

6 Paradise city unit 1

9 Terminal 2 Expansion for Incheon Airport
- 2 Gimpo Data Center

5 White book of LCT project

8 ATV New Factory Construction
- 4 Yeouido-dong 27-2 office Bldg.

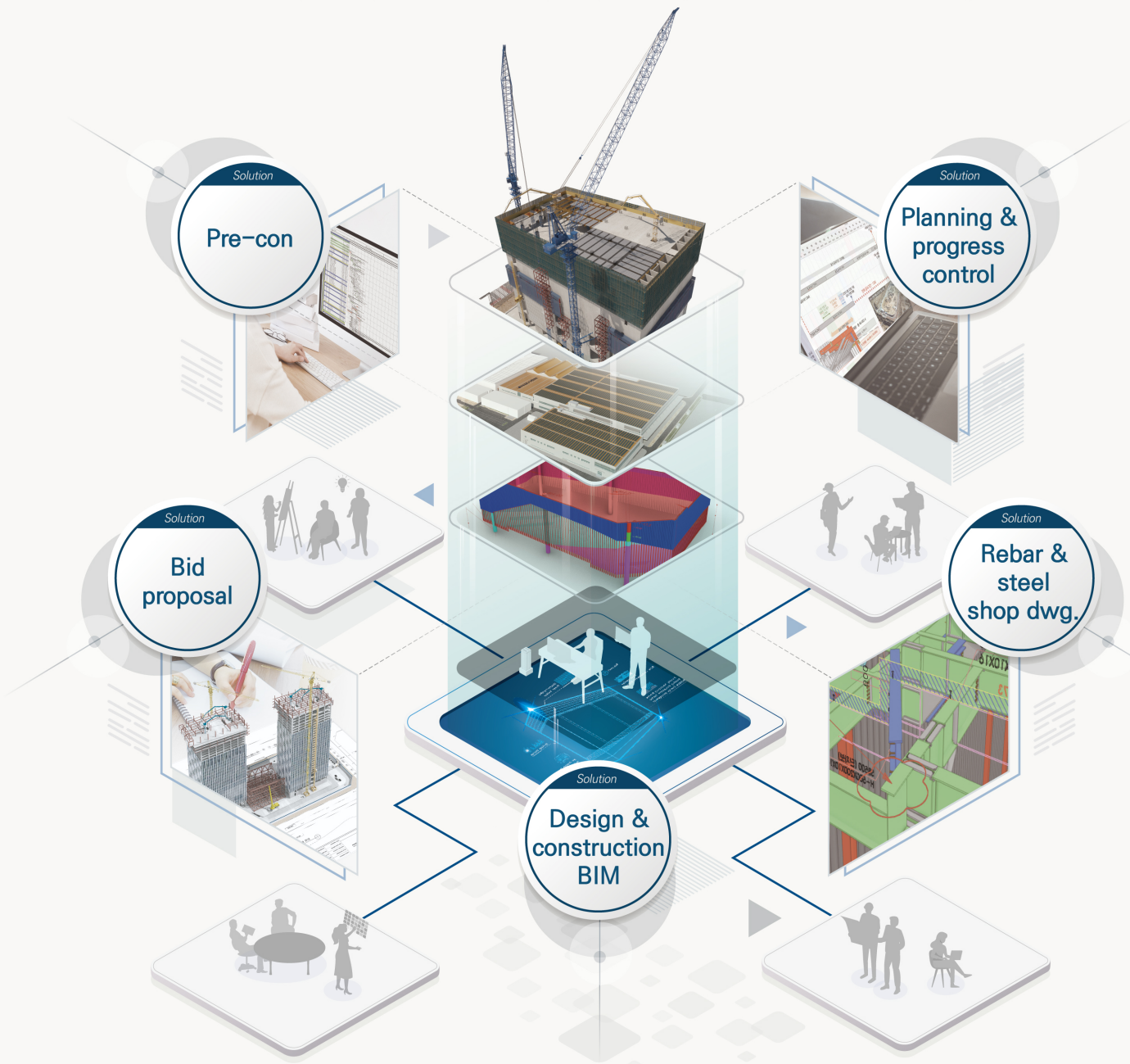
7 WOODLANDS HEALTH CAMPUS

10 Sinhanul Unit 3,4 Nuclear power plant



Every moment from bidding to construction completion Providing optimal solution in entire construction process

By incorporating construction BIM throughout entire construction process, we support the successful execution of projects by providing customized solutions to customers.
We also provide optimal solutions to improve productivity, reduce costs, and enhance safety.



Solution Design BIM / Construction BIM

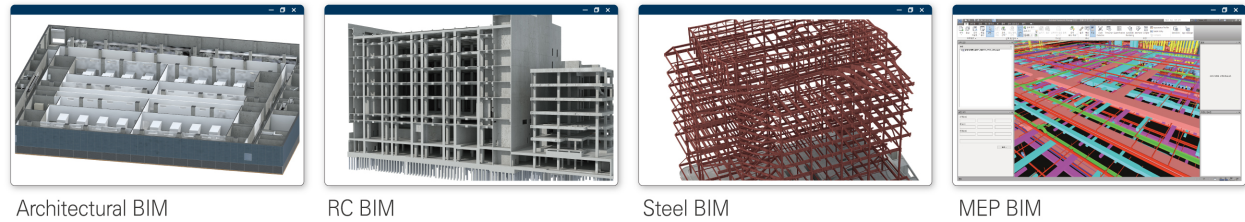
The path to success in design and construction BIM is leaded from automation solutions.

We have developed our own BIM solution to establish a complete construction process plan. Through this, we are building an automated system for quick and accurate data generation and applying parametric techniques using algorithms to respond quickly to frequent planning changes.

BIM modeling

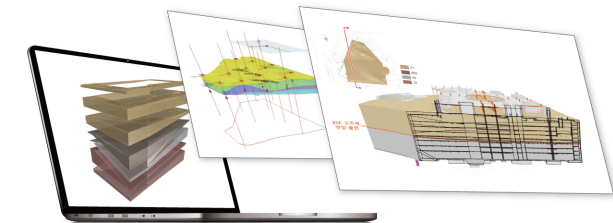
BIM modeling by discipline

BIM modeling rapidly for reviewing of construction execution plan



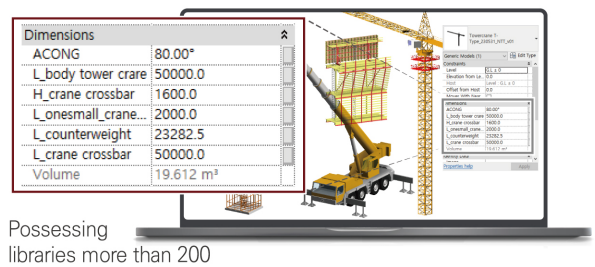
Excavation / Civil modeling

Automatic generation of geological /stratigraphy, pile, and sheathing modeling based on geological survey reports



Equipment & temporary BIM modeling

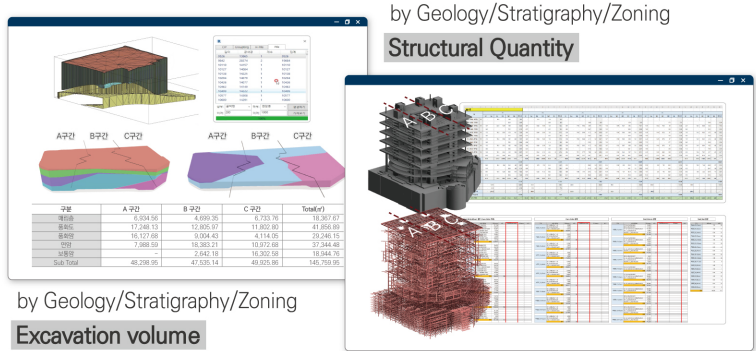
Construction simulation reflecting actual size from catalog



Rapid quantity take-off [Automation system]

Real-time quantity take-off by construction zoning

Efficient construction execution plan and planning that reflect quick and accurate quantity take-off and productivity.



Real-time quantity verification asper zoning change

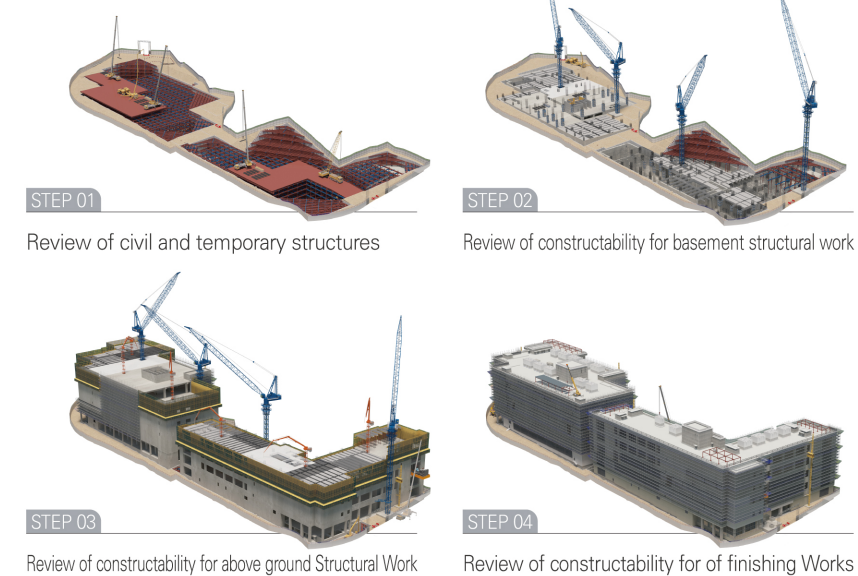
Quantity verification based on algorithm



Visualization and detail review of construction execution plan

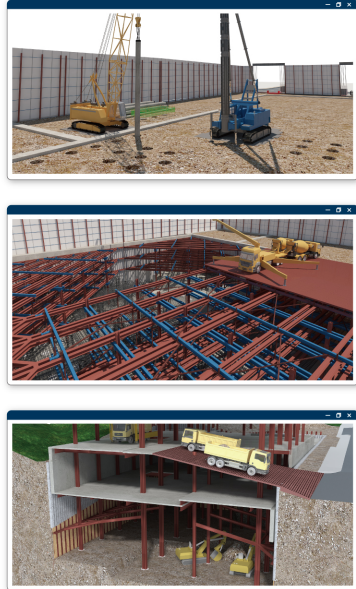
Review of overall/detail construction sequence

Review of construction issues by timeline



Detail BIM review for critical area

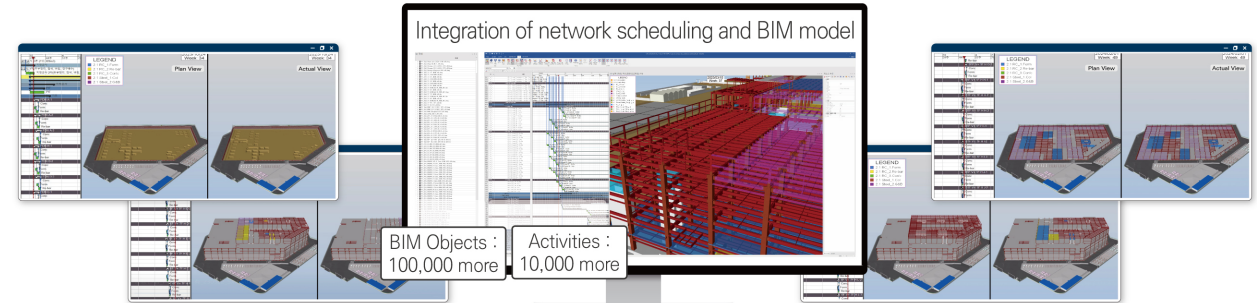
Improved project understanding through BIM



4D Simulation & Progress control management based on daily

4D Simulation

Visualization of construction execution plan & daily progress control management



Solution Bid proposal

Be awarded a contract! It will be realized with C5PLAN-G

Our company streamlines processes such as strategic development, BIM modeling, planning and construction management through our in-house organization. Furthermore, by rich experience and skilled construction professionals, we enhance our engineering to establish systematic construction plans. Based on distinctive strategic development with a storyline, we create competitive bid proposals with secured advantages.

**Representative
performance of
bid proposals**

- Sinhanul Unit 3,4 Nuclear power plant
- Youngdong-daero underground complex unit 1
- CapitaLand Korea No.8 Data Center
- SK Nexilis copper foil plant in Poland
- Jamsil sports-MICE Complex
- Cheongla hana dream-town, Group HQ
- Yeouido-dong 27-2 office Bldg.(Private school pension)
- Terminal 2 Expansion for Incheon Airport
- Legoland Korea Theme park
- Jayang1 Urban Reorganization Project(Complex)
- Woodlands general hospital
- Bank of Korea's integrated annex bldg.

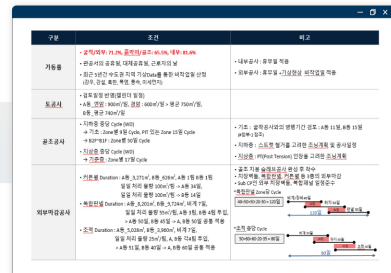
Planning & construction management with field experience

Site analysis

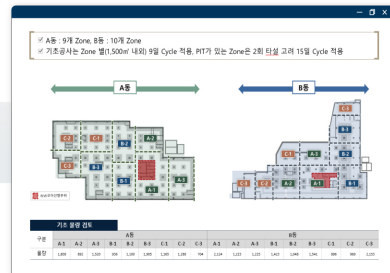
Analysis for efficient and reasonable temp. work


Planning basis

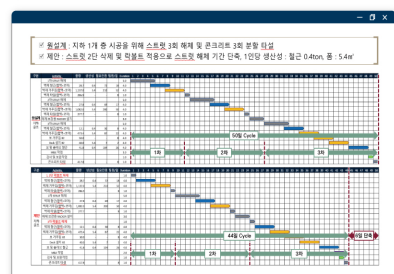
Construction period calculation basis


Zoning plan asper discipline

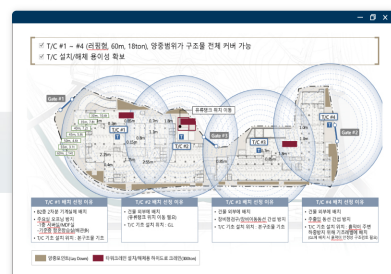
Construction execution plan with data base (Zoning plan, Construction sequence, etc.)


Construction cycle

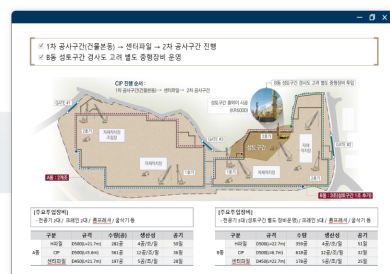
Realistic productivity (Provided by GC or C5PLAN-G)


Tower crane allocation plan

Reflecting analysis of Lifting load & Rigging plan


Sheathing & excavation plan

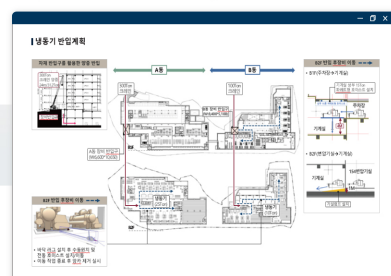
Excavation plan considering q'ty and characteristics of soil & sheathing method


Concrete pouring plan

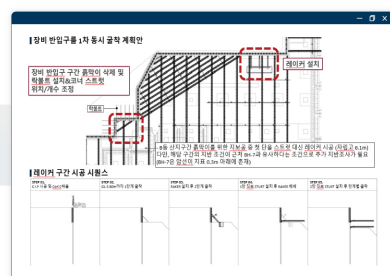
Review of supply chain & daily Q'ty of concrete


Logistic plan

Optimized temporary road plan asper construction sequence


Proposal of alternative

Construction method considering project & site condition



Competitive bid proposals with distinctive strategic development with a storyline

Analysis for technical data & competitors

Strategy with bid trend & RFP


Identified concept/creative storyline

Easily understandable proposal & highly readable presentation



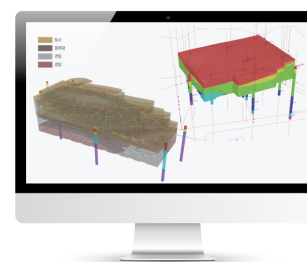
Detailed review for RFP

BIM modeling data for quick & detail planning

Q'ty calculation for quick & detail construction execution plan

Reliability with Q'ty calculation

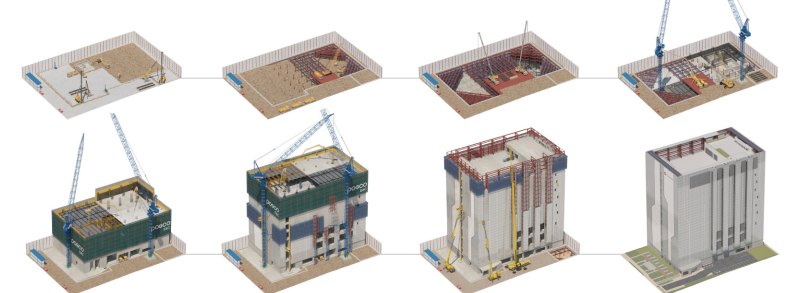
Civil Q'ty calculation



RC/Steel Q'ty calculation


Sequence review for construction execution plan

Sequential simulation with construction schedule


Construction method detail review

Risk registration with sequential review



Based on the quantity, planning & construction execution plan are established to ensure the reliability. Any necessary modifications identified through 4D simulation reviews are immediately updated using BIM. The revised quantity is recalculated according to the updated plan, and corresponding construction and process plans are reestablished. By repeating this process, the optimal construction and process plans are derived.

Column	Foundation	Slab	Girder	Wall
0.0	0.0	0.0	61.3	321.0
0.0	0.0	229.2	46.0	291.3
1.4	69.6	206.9	52.5	541.4
0.0	1,728.1	0.0	0.0	284.4
0.0	0.0	0.0	0.0	0.0
1.4	1,797.7	436.1	160.1	1,438.1
				3,832.5

Optimal construction
period calculation
with resource leveling

Solution *Planning/Progress management*

Advanced project management method is required for the thorough Construction execution plan as planned.

Lead engineers leading the project are deployed to quickly respond to rapidly changing situations through on-site conditions and work leading, and set a clear target process rate to achieve a plan process.
It also manages resources efficiently to maintain quality and achieve the best results while adhering to project schedules and budgets.

Representative performance of planning & progress management solution

- ICN11 Gimpo data center
- Donghwa pharm HQ Bldg.
- Innovative city complex development Pre-con in Munhyeon, Busan
- New station area A-3BL APT.in Gunsan(CM for Fee)
- Chungju hoam A-1BL APT. Unit 4(CM for Fee)
- Handoc genexine Pre-con consulting
- Daegu Bank DGB Innovative center
- Siheung-eungye S4B APT(CM at Risk)
- Uijeongbu gosan S3B APT(CM at Risk)

Network Scheduling

Detail network scheduling reflecting actual productivity
Network schedule and monthly update management

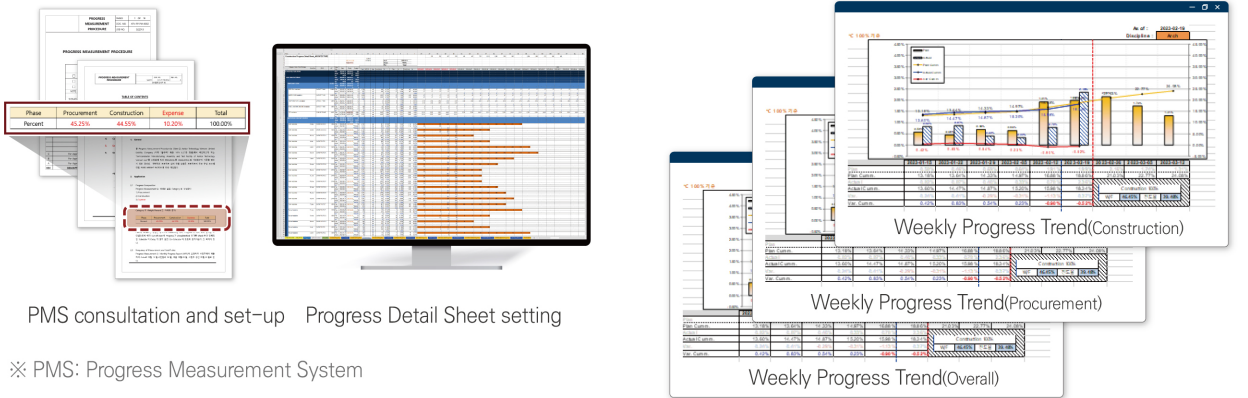
Scheduling of critical activity using network Diagram
Detail scheduling and update



Monitoring and trend analysis of progress

Scheduling (based on PMS) and provision of procedure
Standardization of progress management for Consistent Quality Control

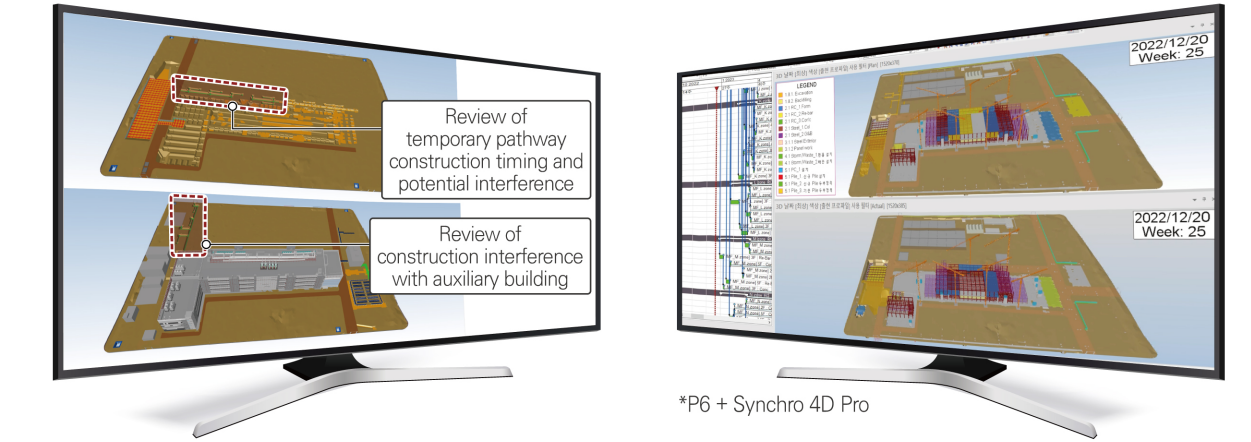
Trend Analysis of progress ratio and pre-notification of Issues
Reviewing weekly plan achievement and trend analysis



Utilization of daily 4D simulation related to the network schedule

Visualization for communication between disciplines
Enhancing understanding of project members through 3D visualization of network schedule

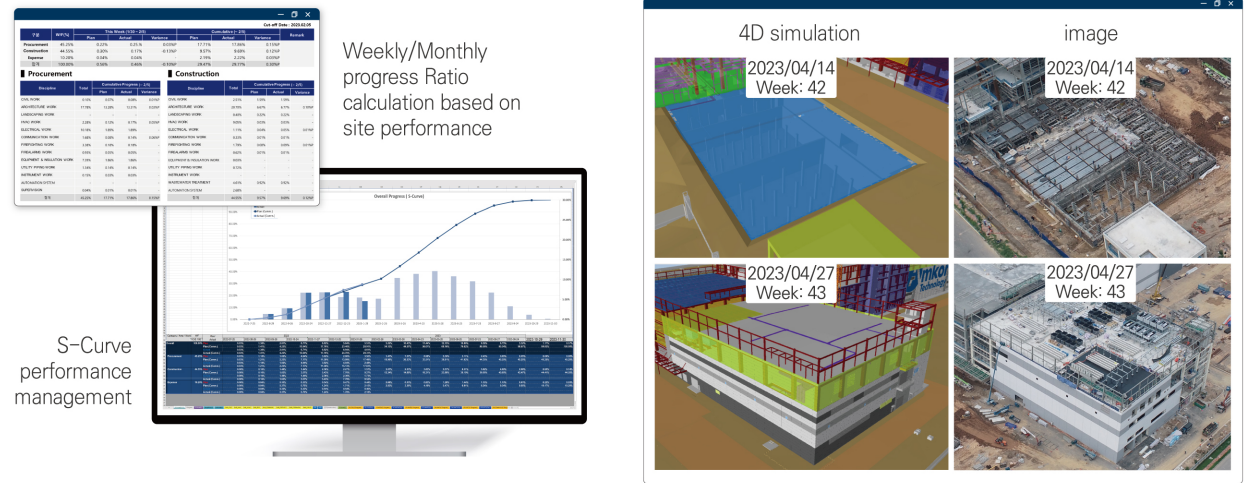
Prevention of construction interference through review of construction sequence
Elimination of construction risks in advance through daily visual review of schedule



Comparison of plan vs actual

Progress ratio performance management
Weekly cumulative progress management by discipline and analysis of delay activities

Comparison of progress analysis for pla(4D)n vs actual(Drone)
Progress Management with 4D simulation and drone images



Solution *Rebar & Steel Shop dwg.*

Integrated shop drawings with steel, rebar, and PC A perfect structure comes from integration.

Our rebar & steel shop dwg. Competitiveness is based on accuracy, speed, and professionalism. By creating accurate drawings, you can minimize field construction reworks, reduce material loss, and prevent poor construction through precise construction. Quick drawing creation can shorten the construction period and reduce costs. In addition, we provide perfect Shop dwg. with professional drawing capabilities, facilitate on-site management of materials, and standardize rebar placement.

Construction execution plan with BIM

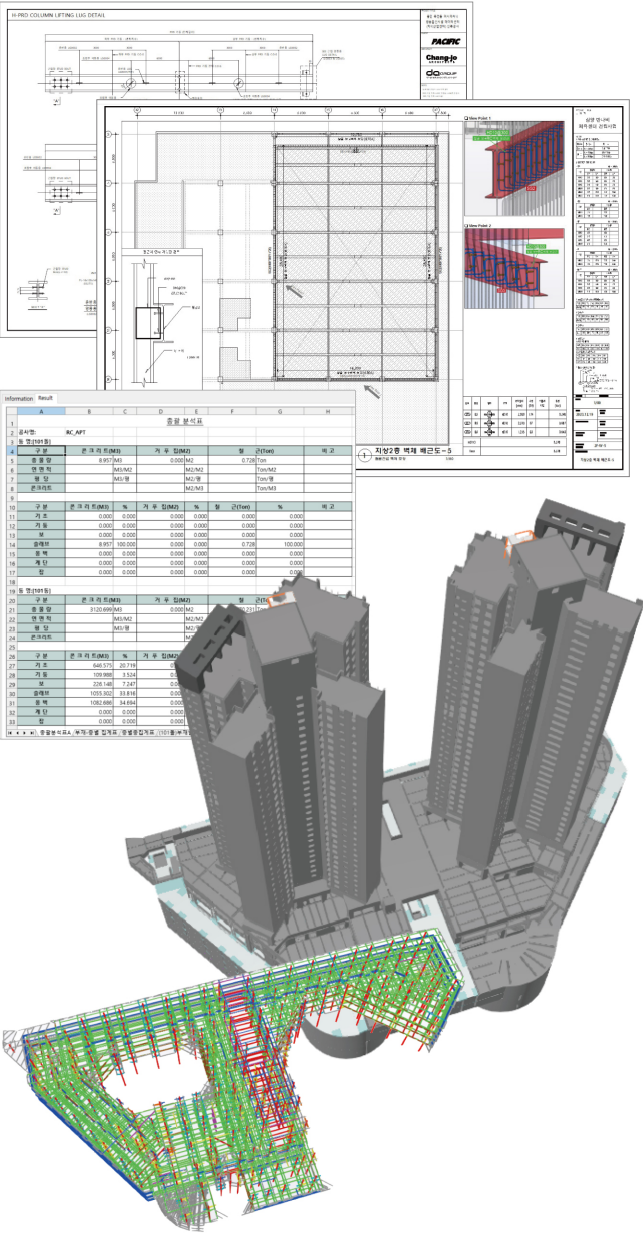
- ✓ Q'ty of structure(Steel, Rebar, Concrete, Form)
- ✓ Design review with consistency (Error, Omit, Interference)
- ✓ Structural safety, Constructability, Value Engineering
- ✓ OSC(OFF-SITE CONSTRUCTION)

Construction management with BIM

- ✓ Setting Project standard, Construction joint zone
- ✓ Detail dwg. from BIM / BBS in complicate part
- ✓ Interference with structure & MEP
- ✓ Q'ty summary as monthly basis(be used monthly progress claim)

Big data platform with BIM

- ✓ Structural rebar & steel Q'ty summary reports
- ✓ Temporary rebar & steel Q'ty summary reports
- ✓ Q'ty comparison report(Plan VS Actual)
- ✓ Data base for structural Q'ty



Representative performance of Rebar Shop dwg.

- Jeju dream tower(China Arch.)
- Gangneung Lotte Castle Signature(Lotte E&C)
- Amore pacific HQ(Hyundai E&C)
- Malaysia IB TOWER(Daewoo E&C)
- Malaysia MATRADE (Daewoo E&C)
- Bangladesh Dhaka Airport(Samsung C&T)
- Gasan-dong AP Tower
- Sincheon-dong, Dongdaegu Residential-commercial complex
- Sinbanpo unit 13 housing reconstruction
- Cheongdam Samik APThousing reconstruction
- Chungmuro Namsan APT
- Gasan-dong Knowledge Industry Center

