Fig.1

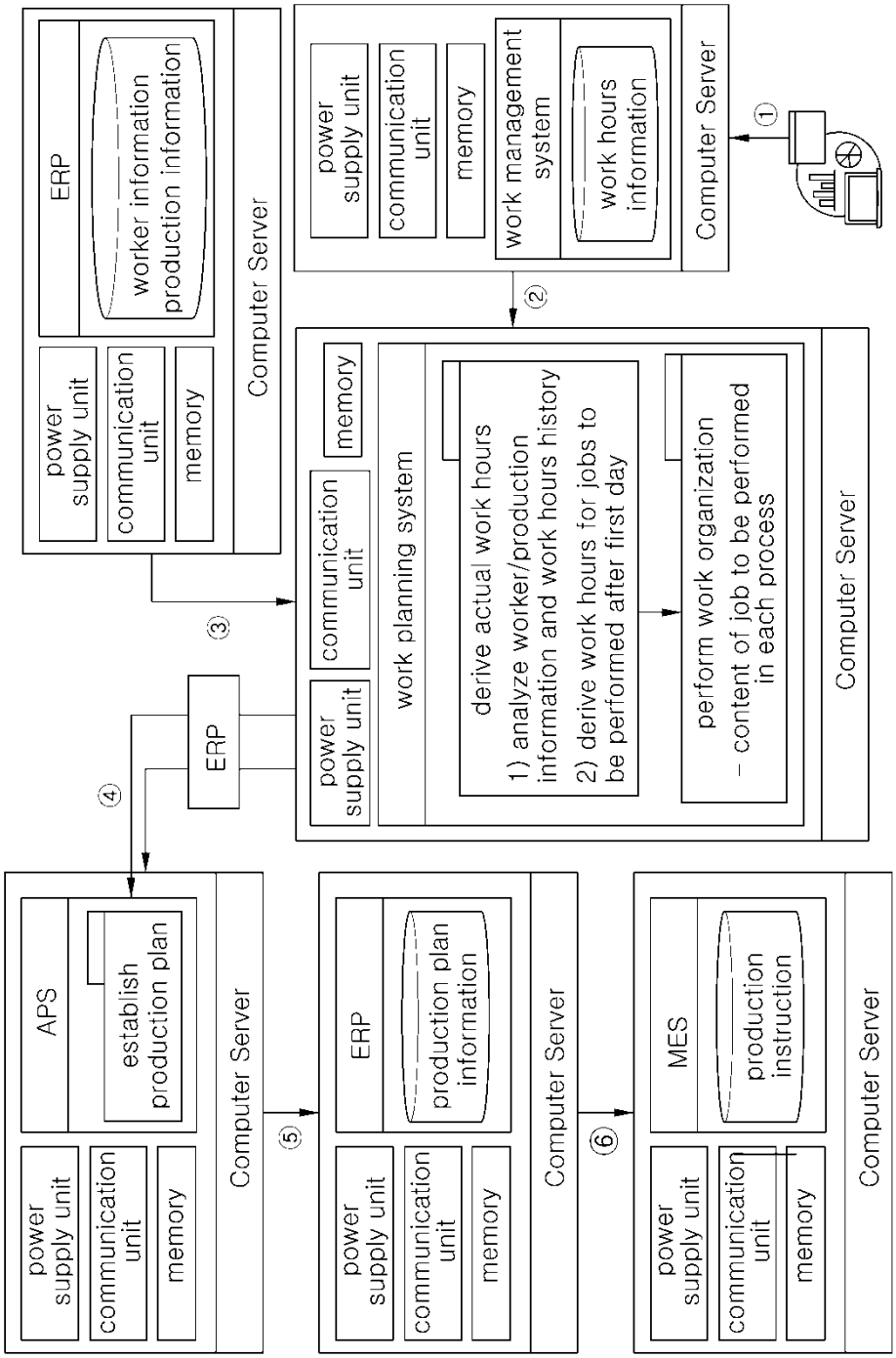
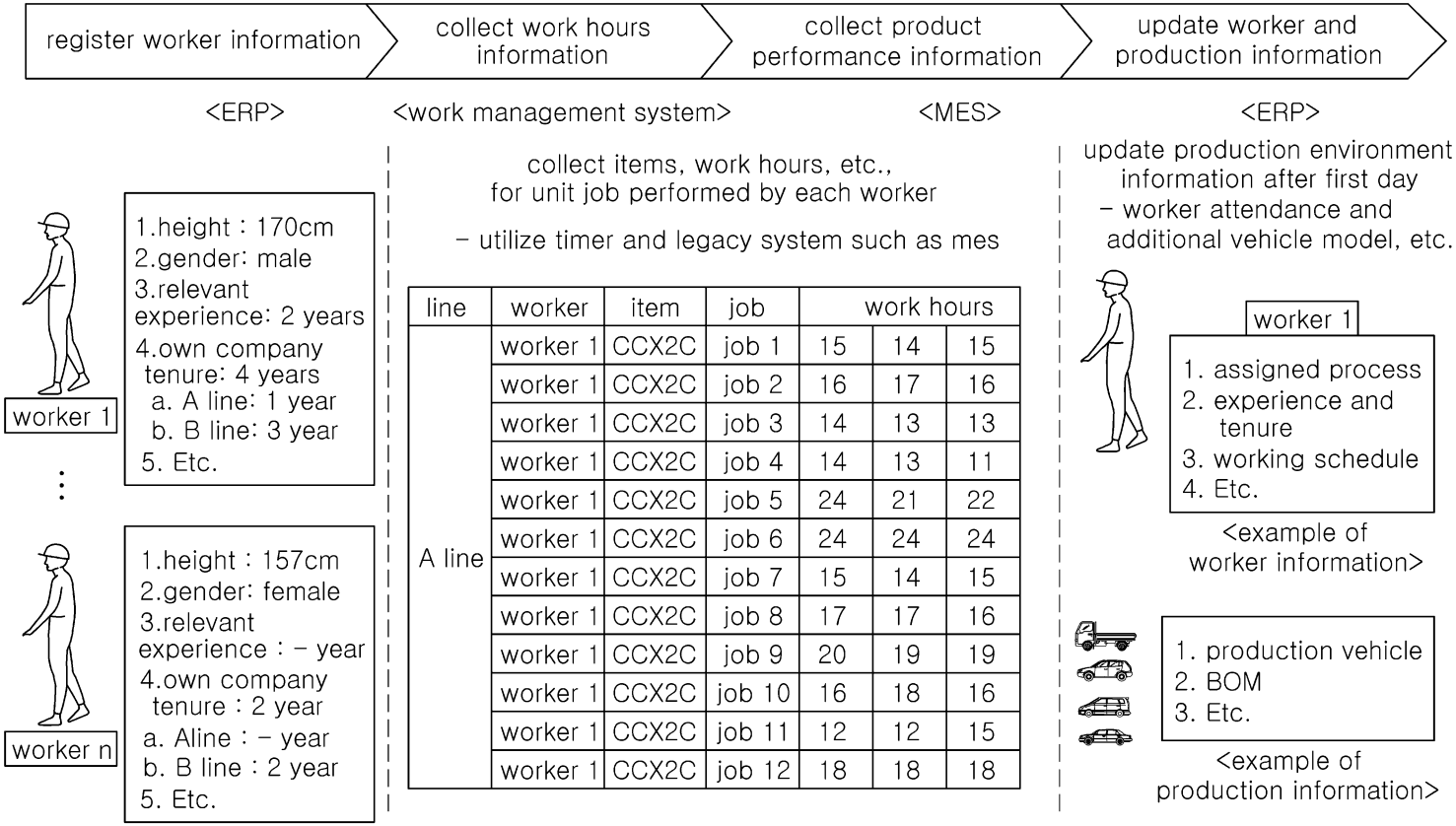

power supply unit
communication unit
memory
Computer Server
APS
establish production plan
ERP
worker information
production information
work management system
work hours information
work planning system
derive actual work hours
1) analyze worker/production information and work hours history
2) derive work hours for jobs to be performed after first day
perform work organization
- content of job to be performed in each process
production plan information
MES
production instruction
①
②
③
④
⑤
⑥

Fig.2



line	worker	item	job	work hours		
A line	worker 1	CCX2C	job 1	15	14	15
	worker 1	CCX2C	job 2	16	17	16
	worker 1	CCX2C	job 3	14	13	13
	worker 1	CCX2C	job 4	14	13	11
	worker 1	CCX2C	job 5	24	21	22
	worker 1	CCX2C	job 6	24	24	24
	worker 1	CCX2C	job 7	15	14	15
	worker 1	CCX2C	job 8	17	17	16
	worker 1	CCX2C	job 9	20	19	19
	worker 1	CCX2C	job 10	16	18	16
	worker 1	CCX2C	job 11	12	12	15
	worker 1	CCX2C	job 12	18	18	18

Fig.3

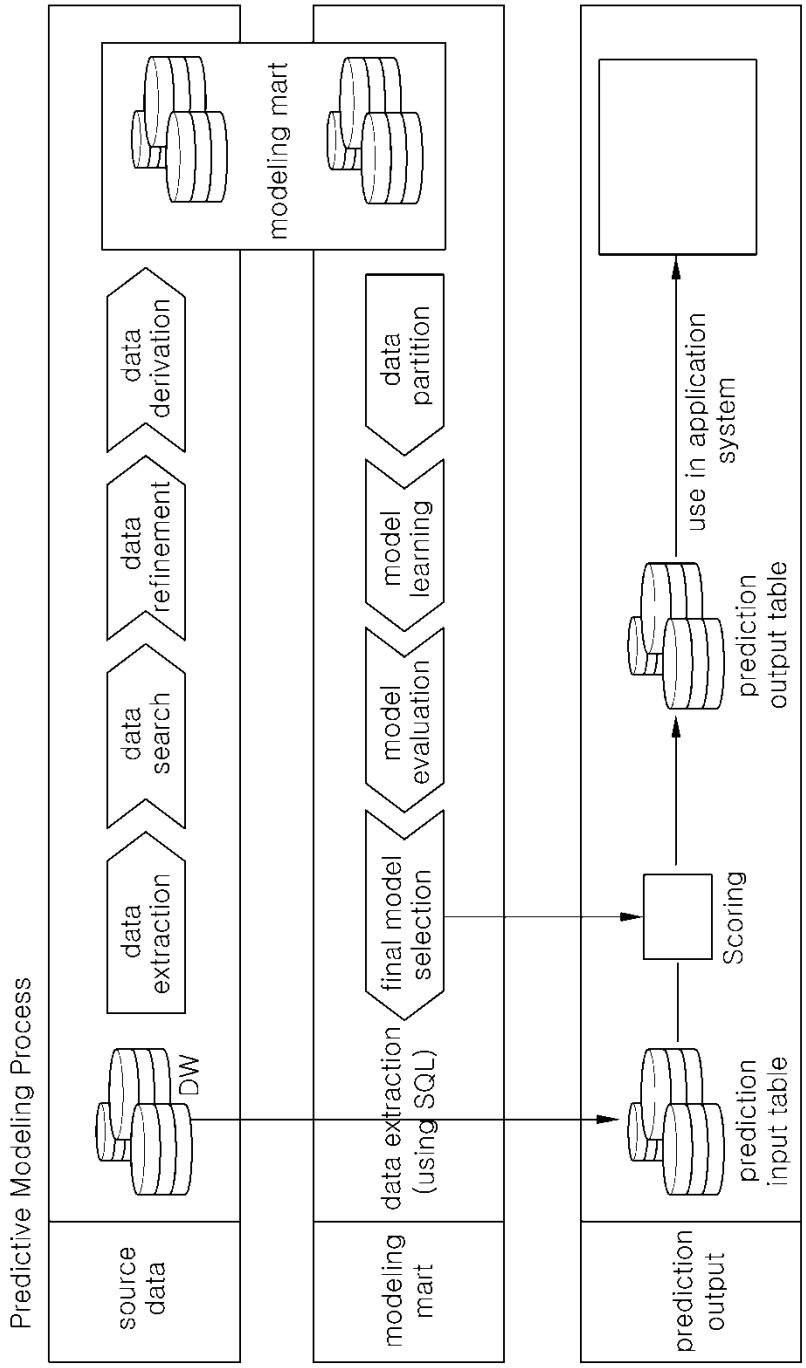
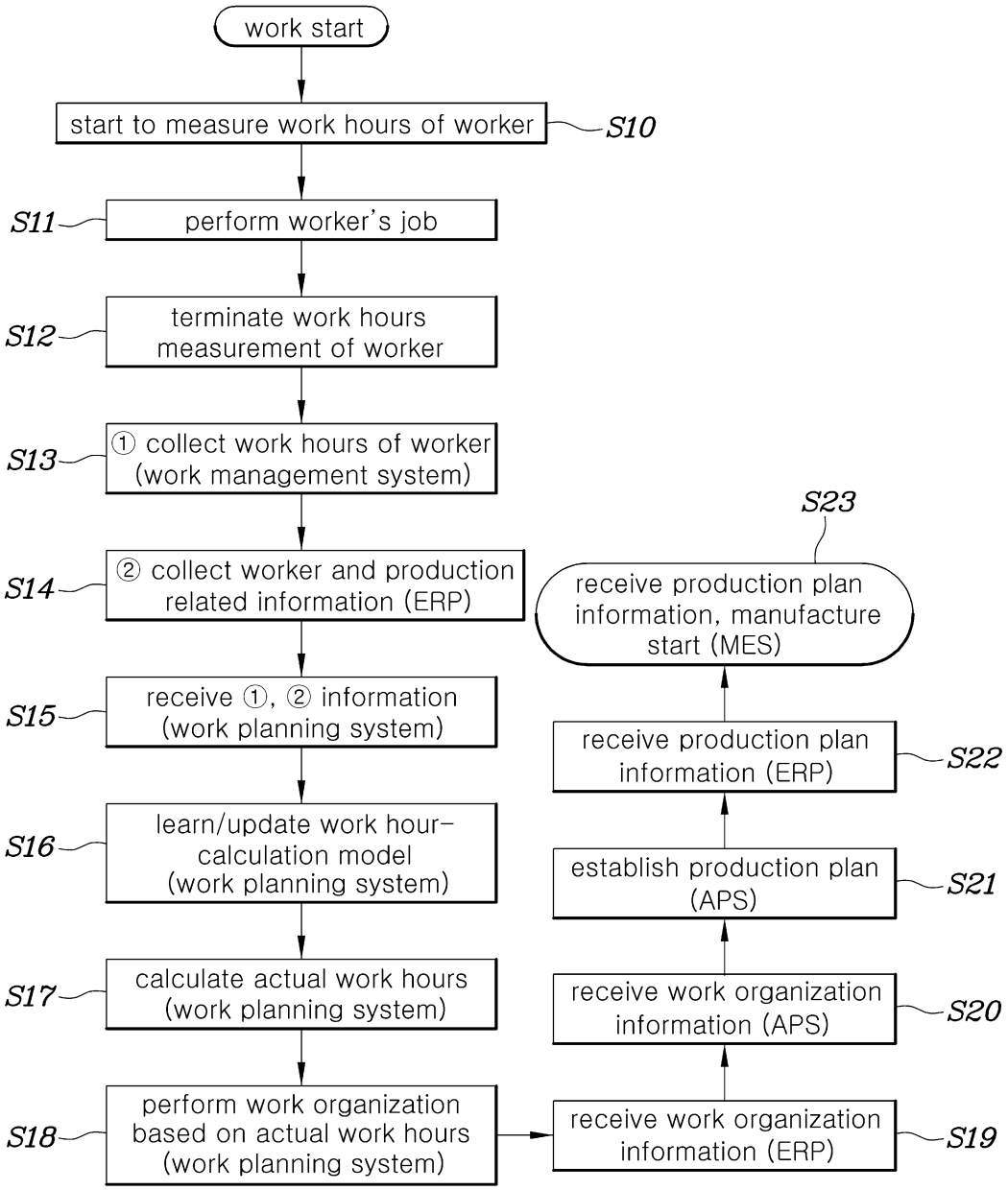

Predictive Modeling Process
source data
modeling mart
prediction output
DW
data extraction
data search
data refinement
data derivation
modeling mart
data extraction (using SQL)
final model selection
model evaluation
model learning
data partition
prediction input table
Scoring
prediction output table
use in application system

Fig.4


work start
start to measure work hours of worker
S10
S11
perform worker's job
S12
terminate work hours measurement of worker
S13
① collect work hours of worker (work management system)
S14
② collect worker and production related information (ERP)
S15
receive ①, ② information (work planning system)
S16
learn/update work hour-calculation model (work planning system)
S17
calculate actual work hours (work planning system)
S18
perform work organization based on actual work hours (work planning system)
S19
receive work organization information (ERP)
S20
receive work organization information (APS)
S21
establish production plan (APS)
S22
receive production plan information (ERP)
S23
receive production plan information, manufacture start (MES)