

wfg\_system\_modelling

# **wfg\_system\_modelling**

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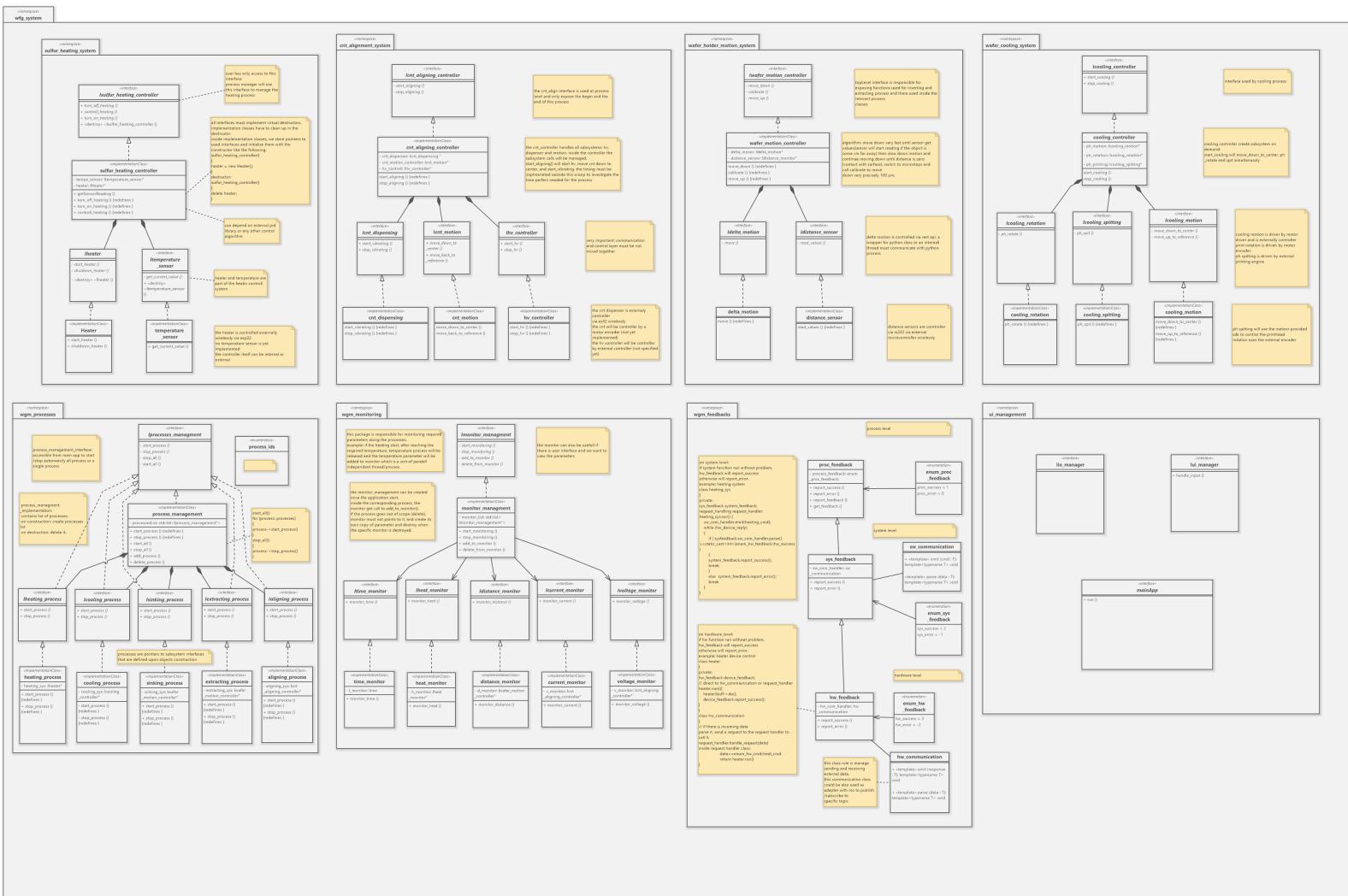
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# wfg\_system\_modelling

## 1 wfg\_v2

### 1.1 Specification\_perspective



Name	ID	Type
wfg_system	PKG002	package
wafer_holder_motion_system	PKG003	package
Idelta_motion	I005	uml-interface-classifier
Idistance_sensor	I006	uml-interface-classifier
wafer_motion_controller	C016 5	class
Iwafer_motion_controller	I004	uml-interface-classifier
delta_motion	C017	class

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Icnt_motion	I009	uml-interface-classifier
Icnt_aligning_controller	I007	uml-interface-classifier
cnt_aligning_controller	C012	class
Ihv_controller	I010	uml-interface-classifier
cnt_dispensing	C013	class
cnt_motion	C014	class
hv_controller	C015	class
wafer_cooling_system	PKG005	package
Icooling_rotation	I012	uml-interface-classifier
Icooling_motion	I013	uml-interface-classifier
Icooling_spitting	I014	uml-interface-classifier
cooling_rotation	C019	class
cooling_spitting	C020	class
cooling_motion	C021	class
Icooling_controller	I011	uml-interface-classifier
cooling_controller	C022	class
wgm_processes	PKG006	package
heating_process	C023	class
Iprocesses_managment	I015	uml-interface-classifier
Iheating_process	I016	uml-interface-classifier
Icooling_process	I017	uml-interface-classifier
Isinking_process	I018	uml-interface-classifier
Ialigning_process	I019	uml-interface-classifier
process_management	C024	class
Iextracting_process	I020	uml-interface-classifier
cooling_process	C025	class
sinking_process	C026	class
extracting_process	C027	class
aligning_process	C028	class
process_ids	E001 6	enumeration
sulfur_heating_system	PKG001	package
Isulfur_heating_controller	I001	uml-interface-classifier

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sulfur_heating_controller	C004	class
wgm_feedbacks	PKG007	package
enum_hw_feedback	E002	enumeration
enum_sys_feedback	E003	enumeration
proc_feedback	C035	class
sys_feedback	C036	class
hw_feedback	C037	class
enum_proc_feedback	E004	enumeration
hw_communication	C039	class
sw_communication	C041	class
wgm_monitoring	PKG008	package
monitor_managment	C029	class
time_monitor	C030	class
heat_monitor	C031	class
distance_monitor	C032	class
current_monitor	C033	class
voltage_monitor	C034	class
Imonitor_managment	I027	uml-interface-classifier
Icurrent_monitor	I034	uml-interface-classifier
IVoltage_monitor	I031	uml-interface-classifier
Iheat_monitor	I030	uml-interface-classifier
Idistance_monitor	I029	uml-interface-classifier
Itime_monitor	I028	uml-interface-classifier
ui_management	PKG009	package
Iio_manager	I037	uml-interface-classifier
Iui_manager	I036	uml-interface-classifier
mainApp	C008	class

*Operations***read\_values****1.1.3 wafer\_motion\_controller***Attributes*

Name	Type	Multiplicity	Description	Tagged Values
delta_move	Idelta_motion*			
distance_sensor	Idistance_monitor*			

*Operations***move\_down****calibrate****move\_up****1.1.4 Iwafer\_motion\_controller***Operations***move\_down****calibrate****move\_up**

*Operations*

**move**

### **1.1.6 distance\_sensor**

*Operations*

**read\_values**

### **1.1.7 Icnt\_dispensing**

*Operations*

**start\_vibrating**

**stop\_vibrating**

### **1.1.8 Icnt\_motion**

*Operations*

**move\_down\_to\_center**

**move\_back\_to\_reference**

### **1.1.9 Icnt\_aligning\_controller**

*Operations*

## 1.1.10 cnt\_aligning\_controller

### *Attributes*

Name	Type	Multiplicity	Description	Tagged Values
cnt_dispenser	Icnt_dispenser *			
cnt_motion_controller	Icnt_motion *			
hv_controller	Ihv_controller*			

### *Operations*

**start\_aligning**

**stop\_aligning**

## 1.1.11 Ihv\_controller

### *Operations*

**start\_hv**

**stop\_hv**

## 1.1.12 cnt\_dispensing

### *Operations*

## 1.1.13 cnt\_motion

*Operations*

**move\_down\_to\_center**

**move\_back\_to\_reference**

## 1.1.14 hv\_controller

*Operations*

**start\_hv**

**stop\_hv**

## 1.1.15 Icooling\_rotation

*Operations*

**ph\_rotate**

## 1.1.16 Icooling\_motion

*Operations*

**move\_down\_to\_center**

**move\_up\_to\_reference**

**ph\_spit**

### **1.1.18 cooling\_rotation**

*Operations*

**ph\_rotate**

### **1.1.19 cooling\_spitting**

*Operations*

**ph\_spit**

### **1.1.20 cooling\_motion**

*Operations*

**move\_down\_to\_center**

**move\_up\_to\_reference**

### **1.1.21 Icooling\_controller**

*Operations*

**start\_cooling**

**stop\_cooling**

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Name	Type	Multiplicity	Description	Tagged Values
ph_motion	Icooling_motion*			
ph_rotation	Icooling_rotation*			
ph_printing	Icooling_spitting*			

### *Operations*

**start\_cooling**

**stop\_cooling**

## 1.1.23 heating\_process

### *Attributes*

Name	Type	Multiplicity	Description	Tagged Values
heating_sys	Iheater*			

### *Operations*

**start\_process**

**stop\_process**

## 1.1.24 Iprocesses\_management

### *Operations*

**stop\_all**

**start\_all**

## 1.1.25 Iheating\_process

*Operations*

**start\_process**

**stop\_process**

## 1.1.26 Icooling\_process

*Operations*

**start\_process**

**stop\_process**

## 1.1.27 Isinking\_process

*Operations*

**start\_process**

**stop\_process**

## 1.1.28 Ialigning\_process

**stop\_process**

## 1.1.29 process\_management

### *Attributes*

Name	Type	Multiplicity	Description	Tagged Values
processesList	std::list<Iprocess_management*>			

### *Operations*

**start\_process****stop\_process****start\_all****stop\_all****add\_process****delete\_process**

## 1.1.30 Extracting\_process

### *Operations*

## 1.1.31 cooling\_process

### *Attributes*

Name	Type	Multiplicity	Description	Tagged Values
cooling_sys	Icooling_controller*			

### *Operations*

**start\_process**

**stop\_process**

## 1.1.32 sinking\_process

### *Attributes*

Name	Type	Multiplicity	Description	Tagged Values
sinking_sys	Iwafer_motion_controller*			

### *Operations*

**start\_process**

**stop\_process**

## 1.1.33 extracting\_process

extracting_sys	Iwafer_motion_controller*		
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*Operations***start\_process****stop\_process****1.1.34 aligning\_process***Attributes*

Name	Type	Multiplicity	Description	Tagged Values
aligning_sys	Icnt_aligning_controller*			

*Operations***start\_process****stop\_process****1.1.35 process\_ids****1.1.36 Isulfur\_heating\_controller***Operations***turn\_off\_heating**

**turn\_on\_heating**

**~Isulfur\_heating\_controller**

### **1.1.37 Itemperature\_sensor**

*Operations*

**get\_current\_value**

**~Itemperature\_sensor**

### **1.1.38 Iheater**

*Operations*

**start\_heater**

**shutdown\_heater**

**~Iheater**

### **1.1.39 Heater**

*Operations*

**start\_heater**

**shutdown\_heater**

*Operations***get\_current\_value****1.1.41 sulfur\_heating\_controller***Attributes*

Name	Type	Multiplicity	Description	Tagged Values
tempe_sens or	Itemperatur e_sensor*			
heater	IHeater*			

*Operations***getSensorReading****turn\_off\_heating****turn\_on\_heating****controll\_heating****1.1.42 enum\_hw\_feedback***Items*

Name	Value	Description
hw_success	3	19
hw_error	-2	

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Name	Value	Description
sys_success	2	
sys_error	-1	

### 1.1.44 proc\_feedback

#### *Attributes*

Name	Type	Multiplicity	Description	Tagged Values
process_feeback	enum_proc_feedback;			

#### *Operations*

**report\_success**

**report\_error**

**report\_feedback**

**get\_feedback**

### 1.1.45 sys\_feedback

#### *Attributes*

Name	Type	Multiplicity	Description	Tagged Values
sw_com_handler	sw_communication	20		

**report\_error****1.1.46 hw\_feedback***Attributes*

Name	Type	Multiplicity	Description	Tagged Values
hw_com_handler	hw_communication			

*Operations***report\_success****report\_error****1.1.47 enum\_proc\_feedback***Items*

Name	Value	Description
proc_success	1	
proc_error	0	

**1.1.48 hw\_communication***Operations***emit**

**Return type:** template<typename T> void

**Return type:** template<typename T> void

*Parameters*

Name	Type	Default Value	Description
data	T		

## 1.1.49 sw\_communication

*Operations*

**emit**

**Return type:** template<typename T> void

*Parameters*

Name	Type	Default Value	Description
cmd	T		

**parse**

**Return type:** template<typename T> void

*Parameters*

Name	Type	Default Value	Description
data	T		

## 1.1.50 monitor\_managment

*Attributes*

Name	Type	Multiplicity	Description	Tagged Values
monitor_list	std::list<Im	22		

*Operations***start\_monitoring****stop\_monitoring****add\_to\_monitor****delete\_from\_monitor****1.1.51 time\_monitor***Attributes*

Name	Type	Multiplicity	Description	Tagged Values
t_monitor	time			

*Operations***monitor\_time****1.1.52 heat\_monitor***Attributes*

Name	Type	Multiplicity	Description	Tagged Values
h_monitor	Iheat_monit or*			

*Operations*

*Attributes*

Name	Type	Multiplicity	Description	Tagged Values
d_monitor	Iwafer_motion_controller*			

*Operations***monitor\_distance****1.1.54 current\_monitor***Attributes*

Name	Type	Multiplicity	Description	Tagged Values
c_monitor	Icnt_aligning_controller*			

*Operations***monitor\_current****1.1.55 voltage\_monitor***Attributes*

Name	Type	Multiplicity	Description	Tagged Values
v_monitor	Icnt_aligning_controller*	24		

## 1.1.56 Imonitor\_management

*Operations*

**start\_monitoring**

**stop\_monitoring**

**add\_to\_monitor**

**delete\_from\_monitor**

## 1.1.57 Icurrent\_monitor

*Operations*

**monitor\_current**

## 1.1.58 Ivoltage\_monitor

*Operations*

**monitor\_voltage**

## 1.1.59 Iheat\_monitor

*Operations*

**monitor\_heat**

## **monitor\_distance**

### **1.1.61 Itime\_monitor**

*Operations*

## **monitor\_time**

### **1.1.62 Iui\_manager**

*Operations*

## **handle\_input**

### **1.1.63 mainApp**

*Operations*

## **run**

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