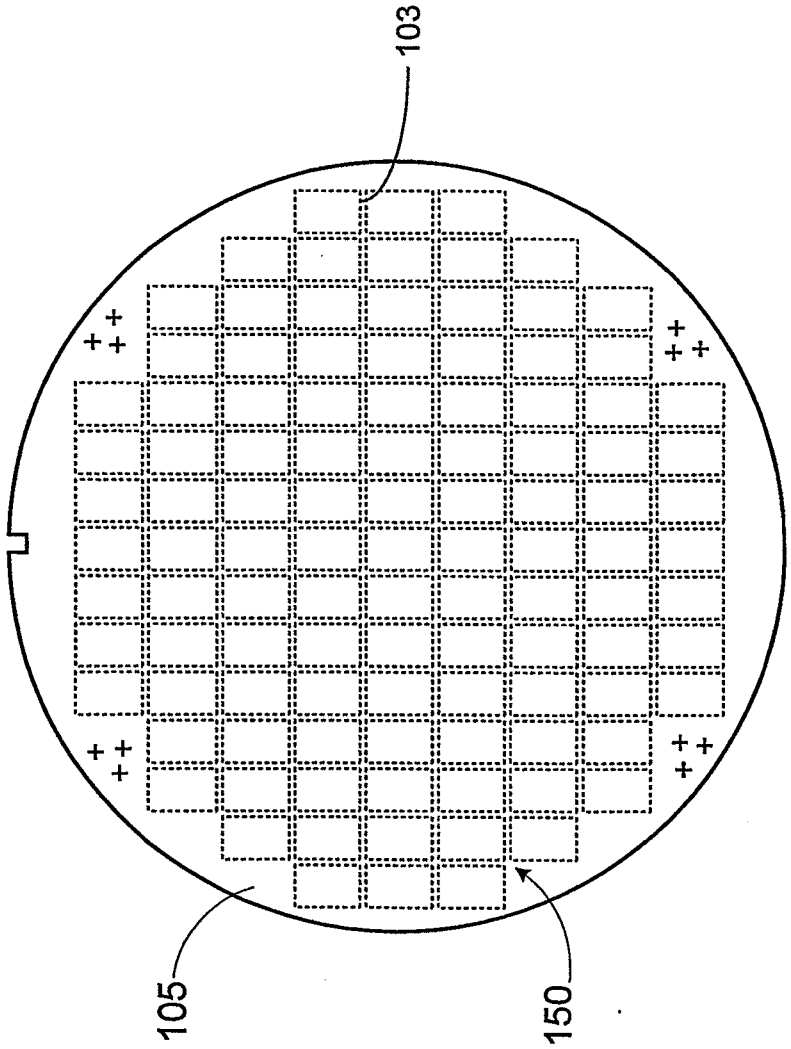


FIGURE 1 (Prior Art)

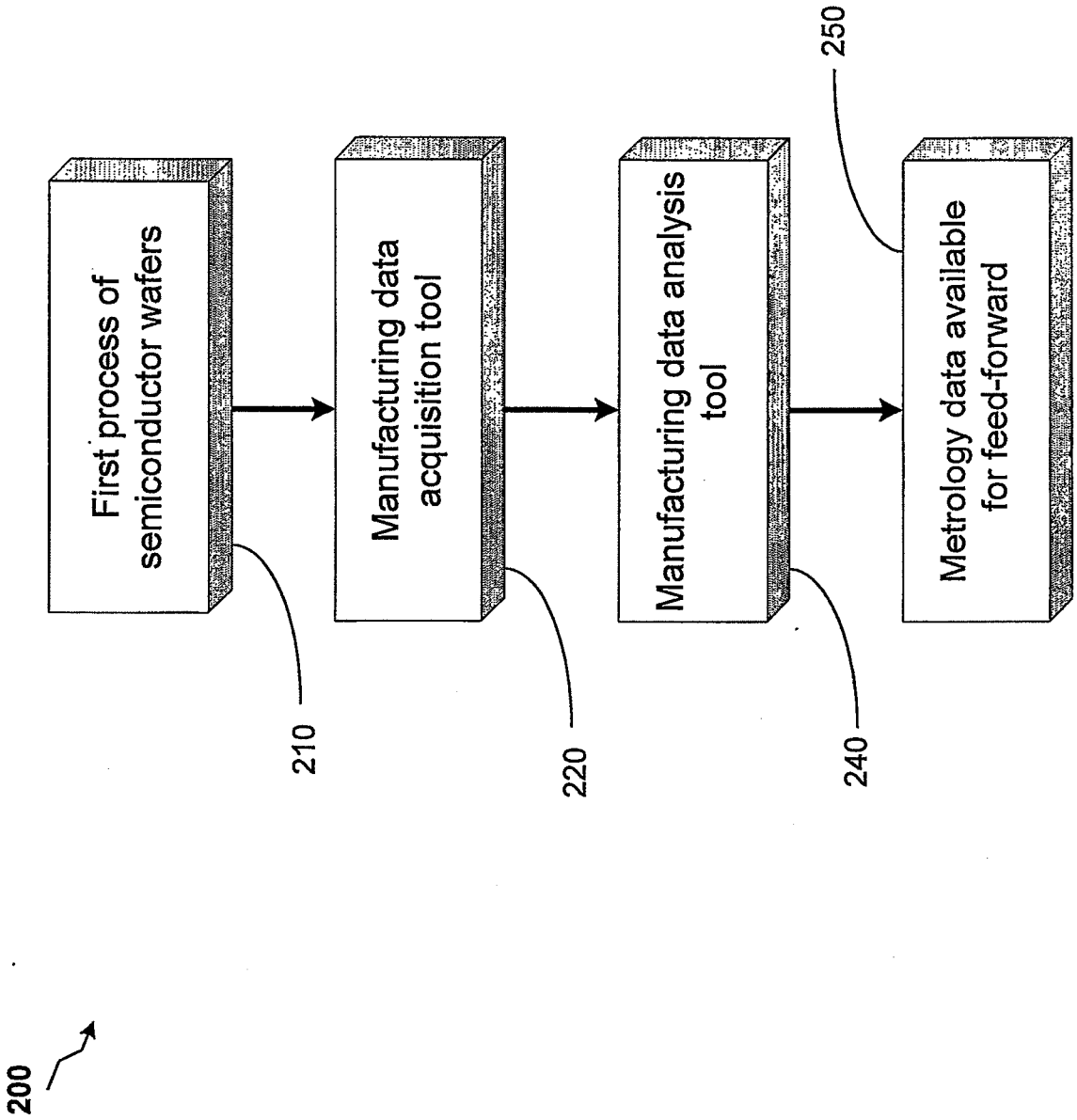


FIGURE 2 (Prior Art)

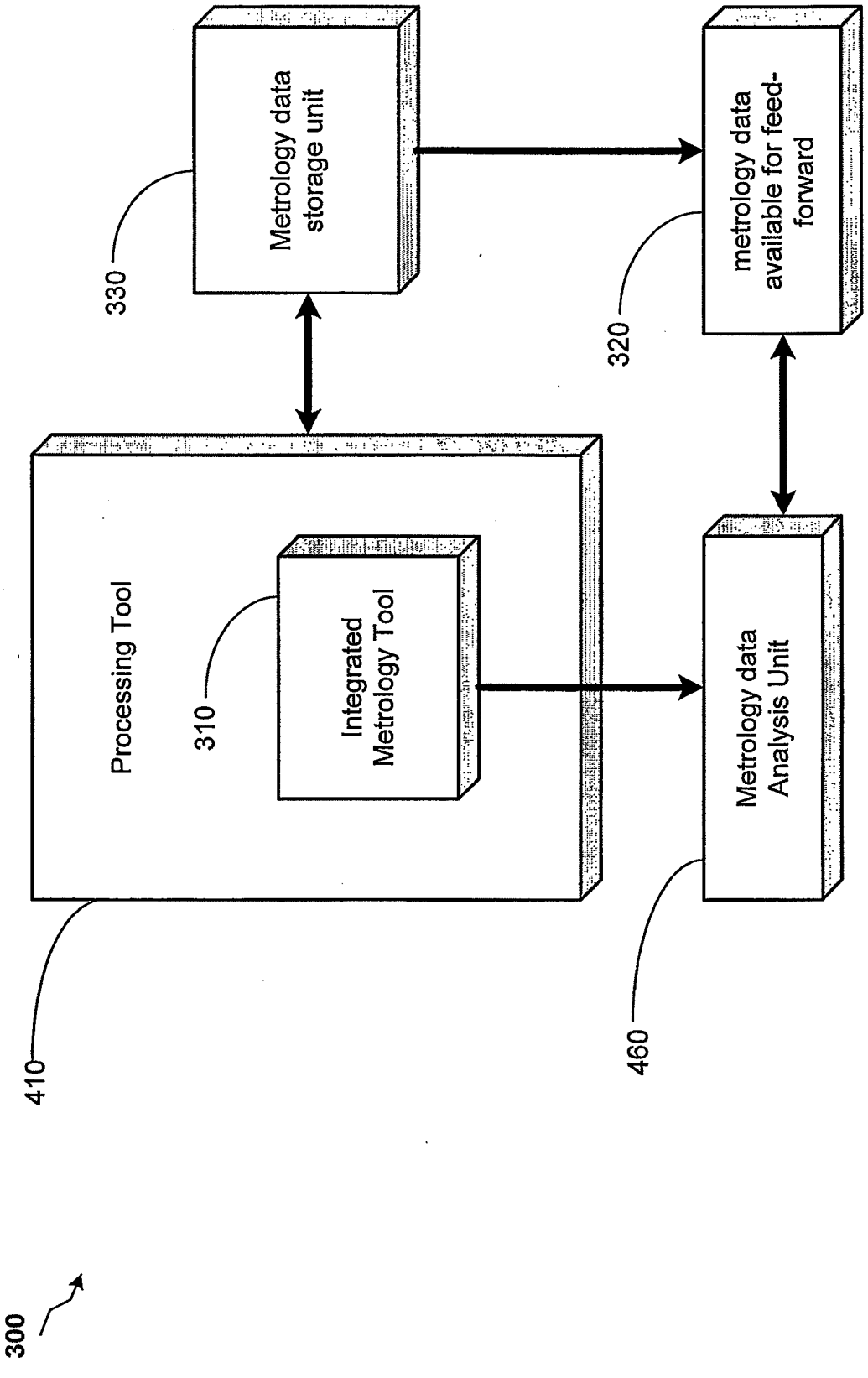

Metrology data storage unit
330
metrology data available for feed-forward
320
Processing Tool
Integrated Metrology Tool
310
Metrology data Analysis Unit
410
460
300

FIGURE 3

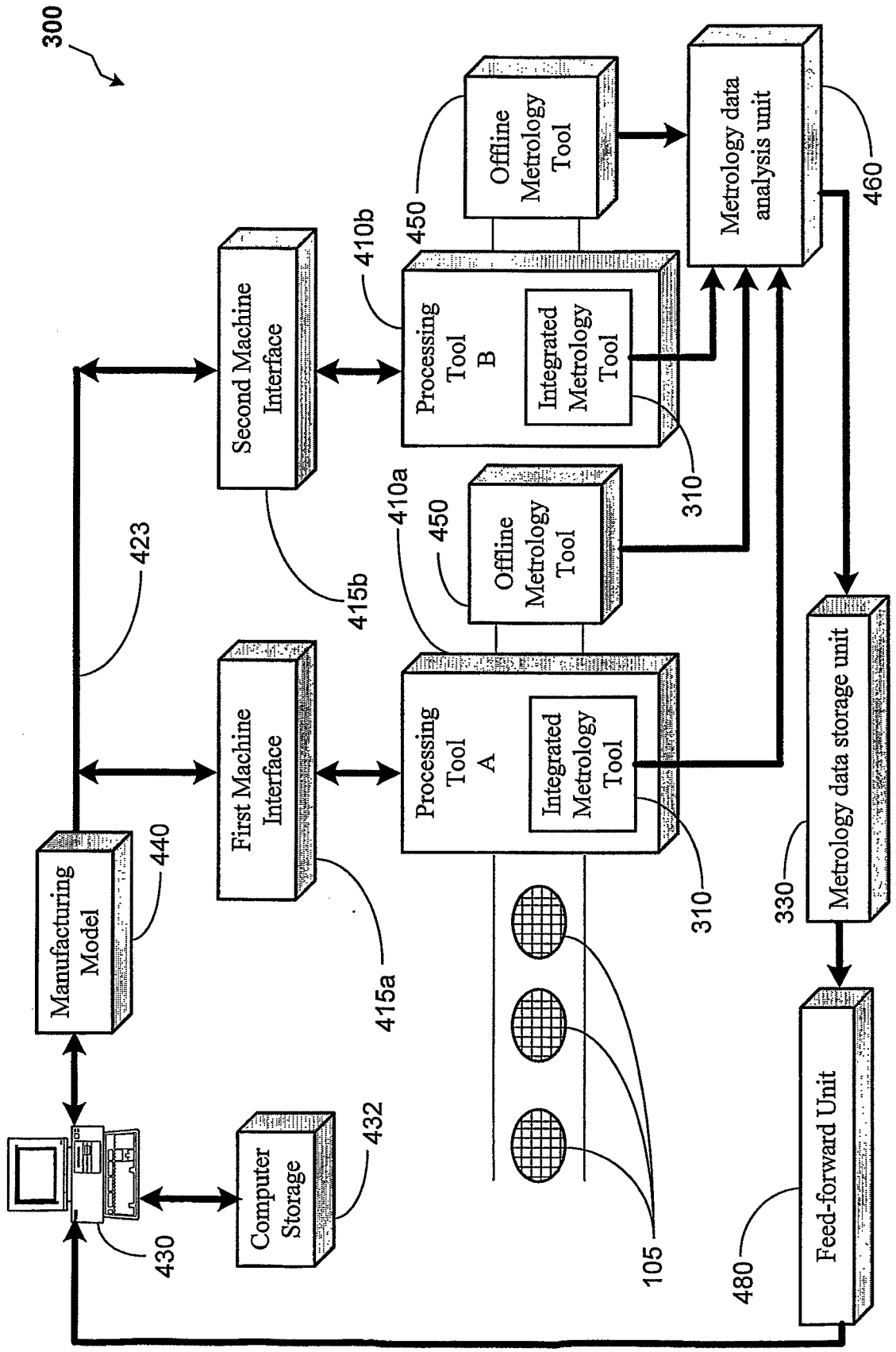

300
Offline Metrology Tool
Metrology data analysis unit
450
460
410b
Second Machine Interface
Processing Tool B
Integrated Metrology Tool
310
410a
450
Offline Metrology Tool
423
415b
First Machine Interface
Processing Tool A
Integrated Metrology Tool
310
330
Metrology data storage unit
Manufacturing Model
440
415a
Computer Storage
432
430
105
480
Feed-forward Unit

FIGURE 4

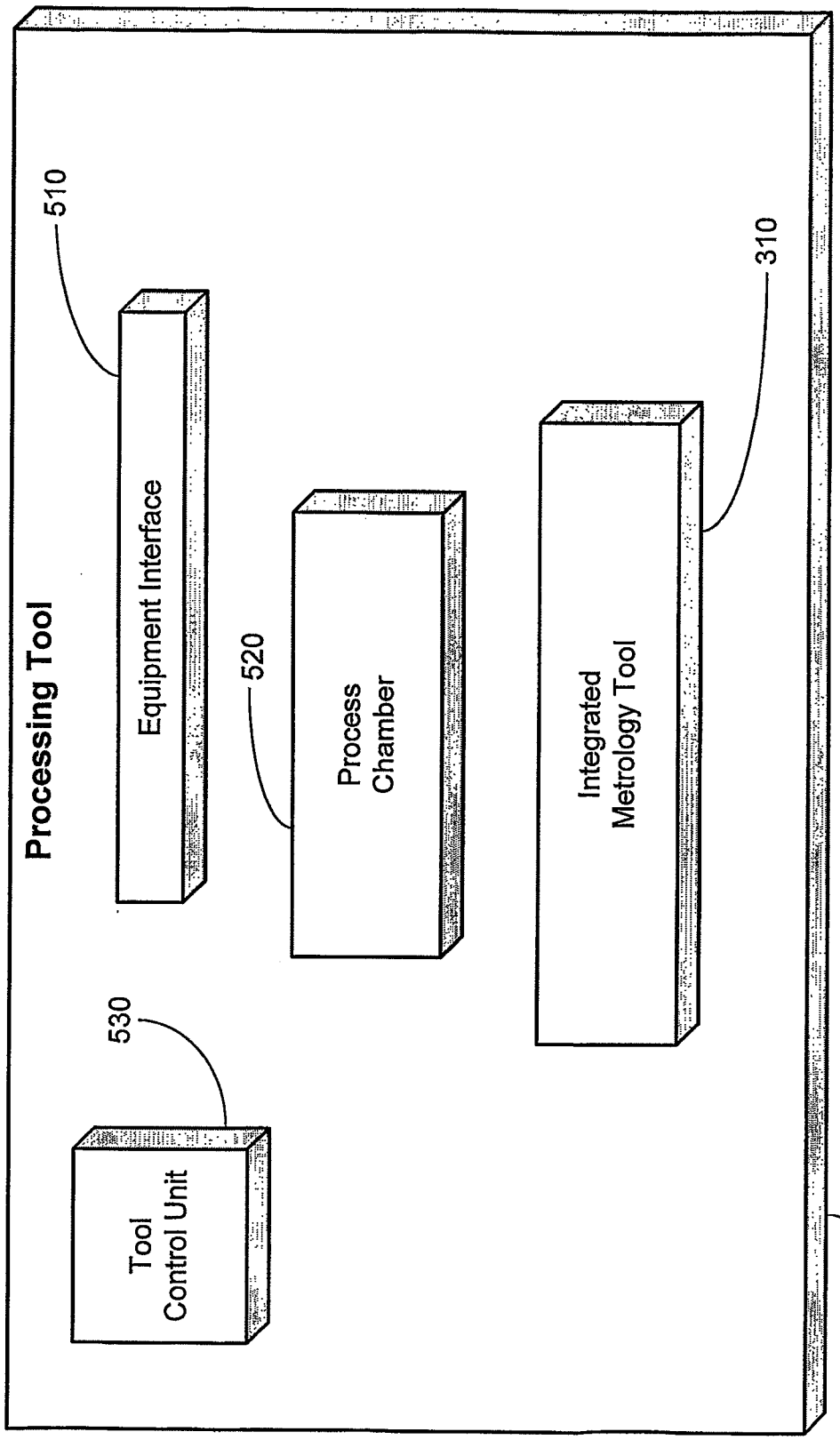

Processing Tool
510
Equipment Interface
520
Process Chamber
310
Integrated Metrology Tool
530
Tool Control Unit
410

FIGURE 5

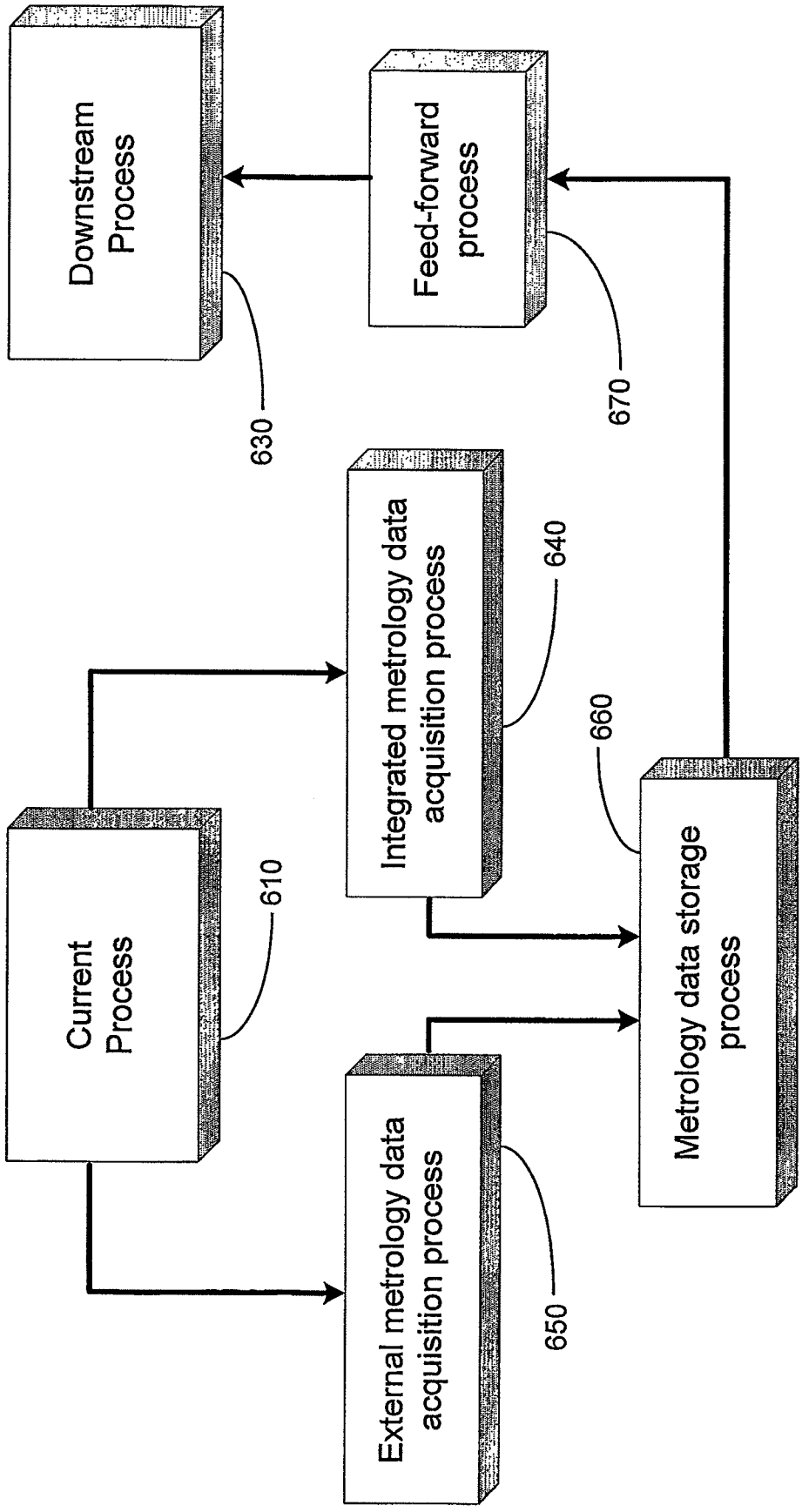

Downstream Process
630
Feed-forward process
670
Integrated metrology data acquisition process
640
660
Current Process
610
Metrology data storage process
External metrology data acquisition process
650

FIGURE 6

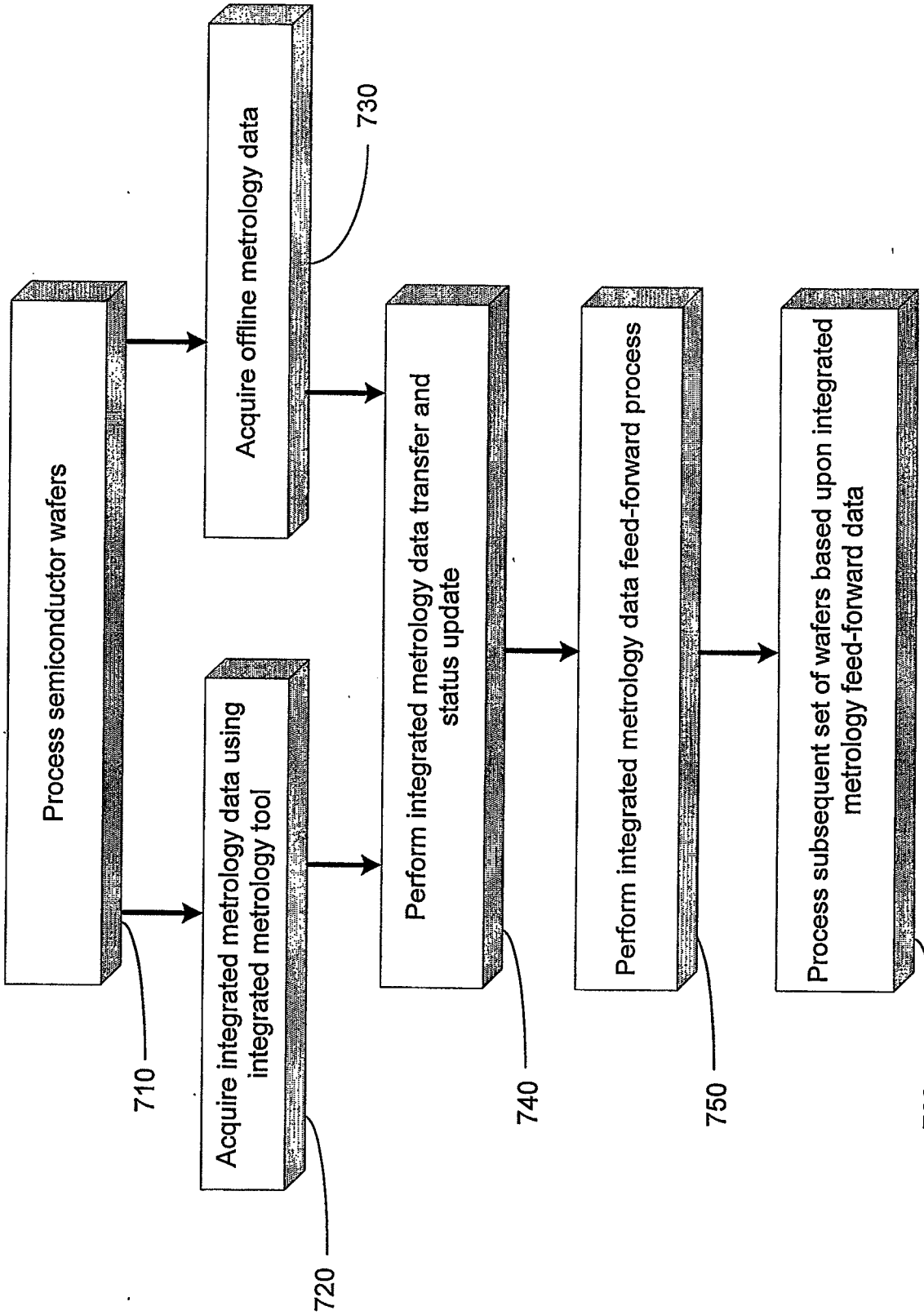

Process semiconductor wafers
Acquire offline metrology data
730
Acquire integrated metrology data using integrated metrology tool
Perform integrated metrology data transfer and status update
Perform integrated metrology data feed-forward process
Process subsequent set of wafers based upon integrated metrology feed-forward data
710
720
740
750
760

FIGURE 7

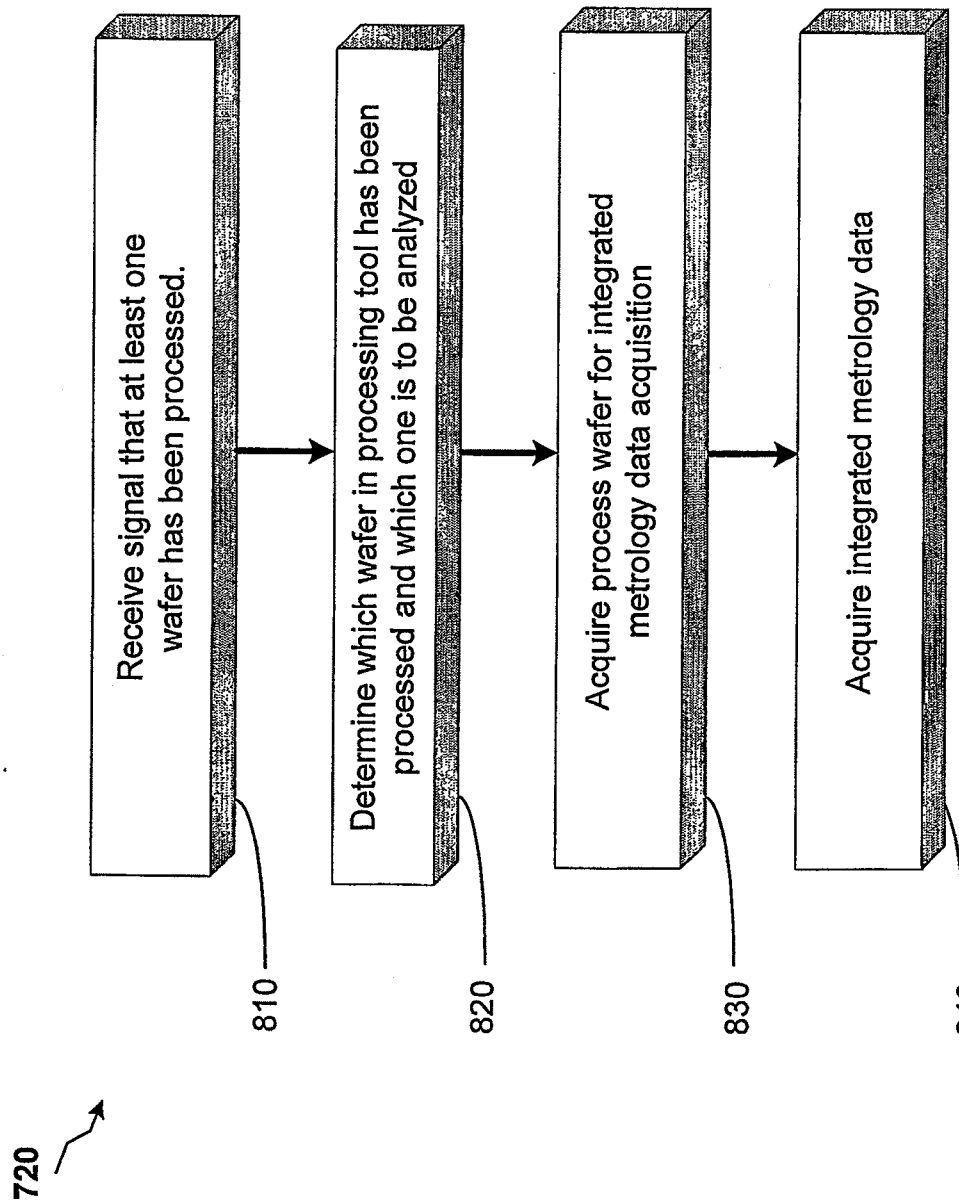

Receive signal that at least one wafer has been processed.
Determine which wafer in processing tool has been processed and which one is to be analyzed
Acquire process wafer for integrated metrology data acquisition
Acquire integrated metrology data
810
820
830
840
720

FIGURE 8

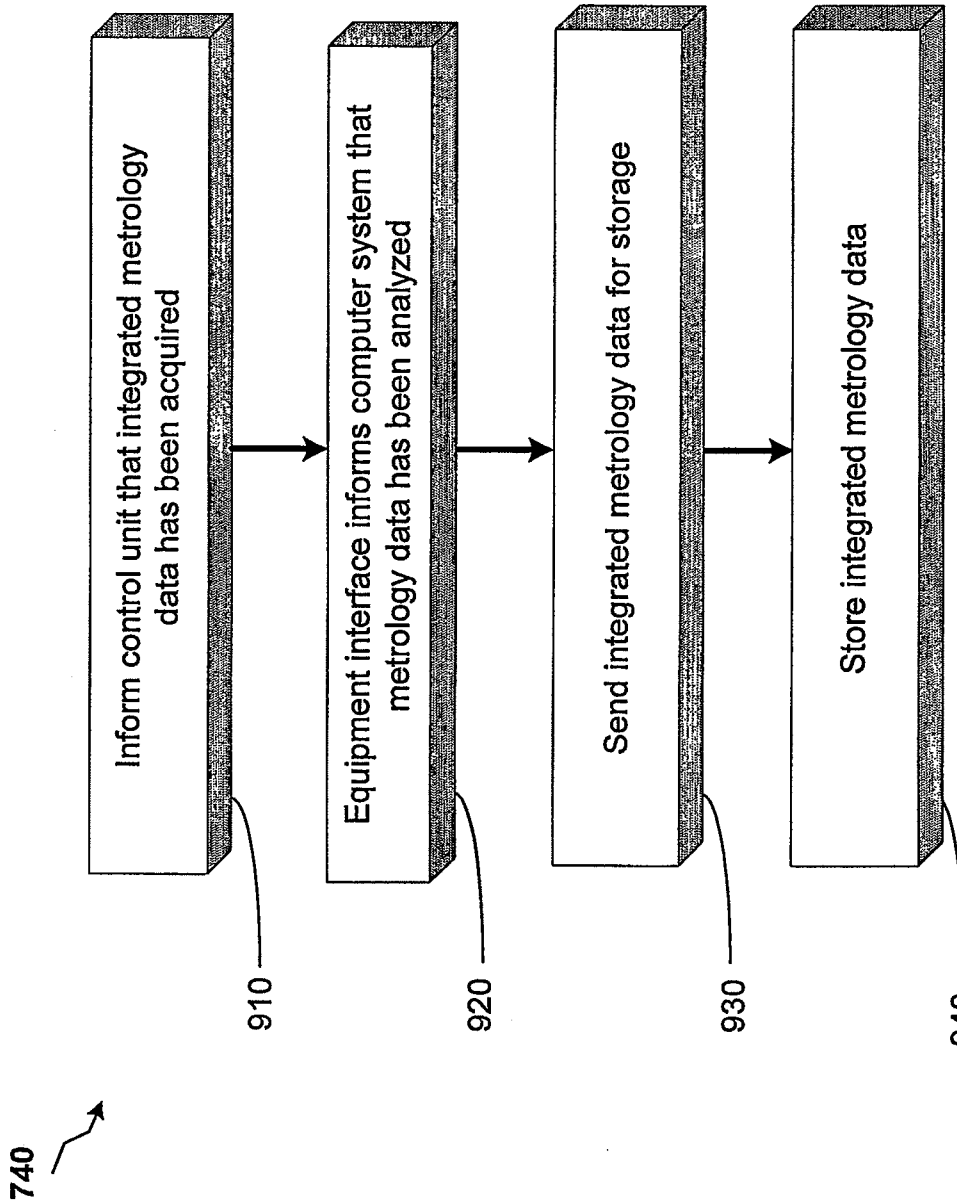

Inform control unit that integrated metrology data has been acquired
Equipment interface informs computer system that metrology data has been analyzed
Send integrated metrology data for storage
Store integrated metrology data
910
920
930
940
740

FIGURE 9

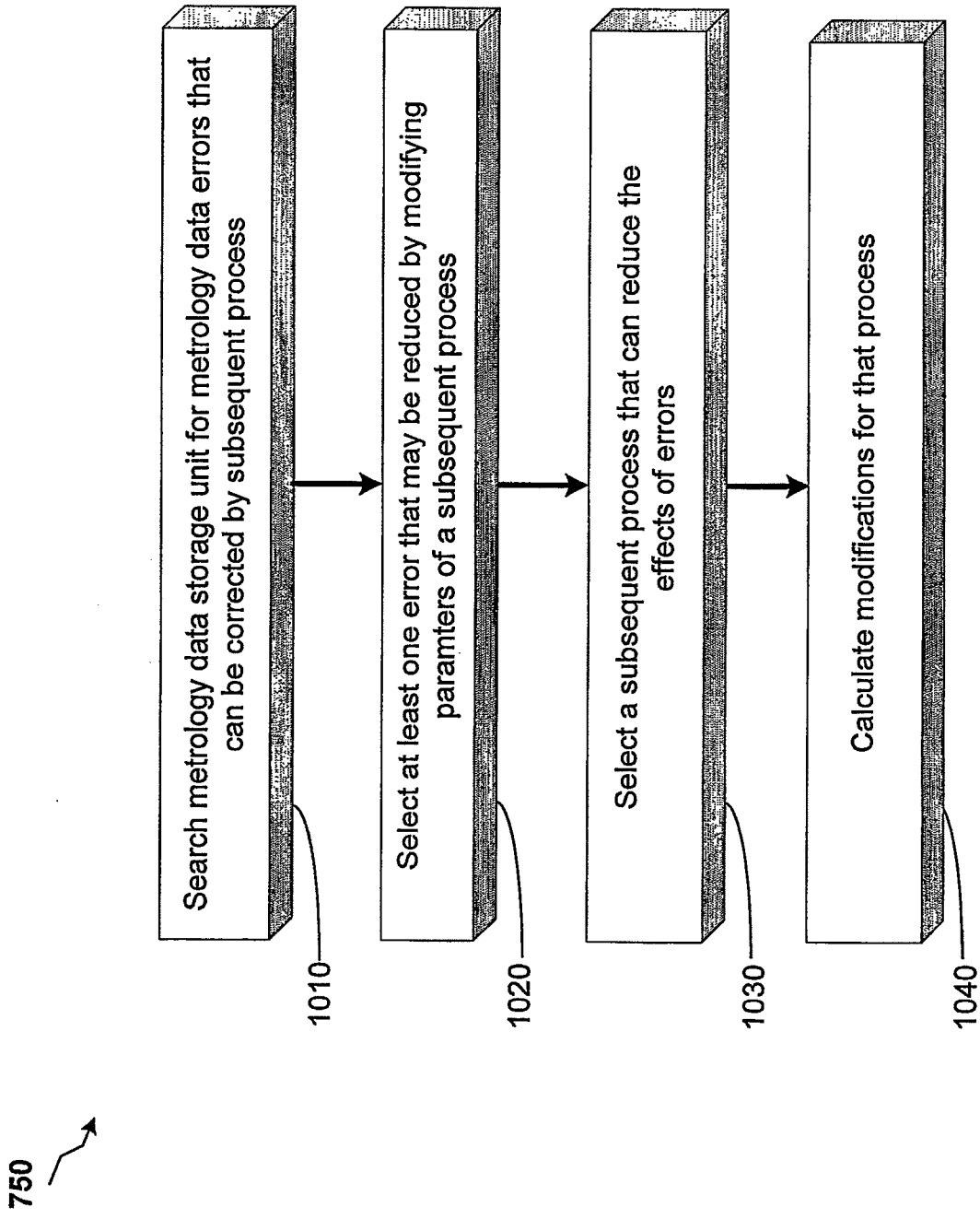

Search metrology data storage unit for metrology data errors that can be corrected by subsequent process
Select at least one error that may be reduced by modifying paramters of a subsequent process
Select a subsequent process that can reduce the effects of errors
Calculate modifications for that process
1010
1020
1030
1040
750

FIGURE 10