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Cordova et al.

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(54) **WAFER FABRICATION DATA ACQUISITION AND MANAGEMENT SYSTEMS**

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(57) **ABSTRACT**

(21) Appl. No.: **09/561,440**

The present invention provides a semiconductor processing device (800) including a tool (802) having one or more sensors, a primary data communication port (804) and a secondary data communication port (806). A sensor data acquisition subsystem (808) acquires sensor data from the tool via the secondary port (806). The data acquisition subsystem (808) acquires MES operation messages via the primary port (804). Sensor data are communicated to a sensor processing unit (828) of a sensor data processing subsystem (810). The sensor processing unit (828) processes and analyzes the sensor data. Additionally, the processing unit (828) can be adapted for making product or processing related decisions, for example activating an alarm if the process is not operating within control limits. In another embodiment, the present invention provides a method and apparatus for processing data from a wafer fab facility (1000) including a plurality of tools (1004–1010) each having a primary data communication port (1012–1018) and a secondary data communication port (1042–1048).

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(51) **Int. Cl.** **G06F 19/00**

(52) **U.S. Cl.** **702/117; 700/121**

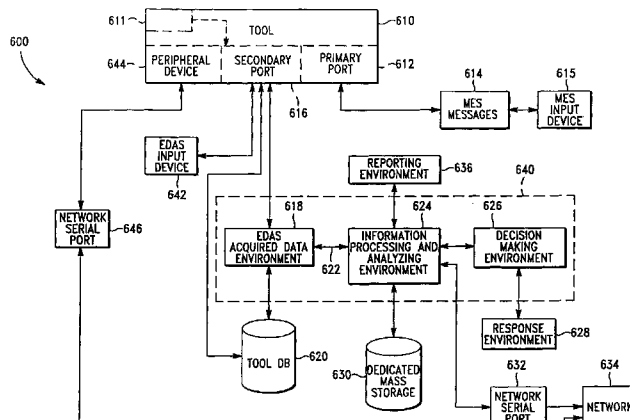
(58) **Field of Search** 702/122, 117, 188; 710/1; 700/121, 117, 96; 701/1

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9 Claims, 11 Drawing Sheets



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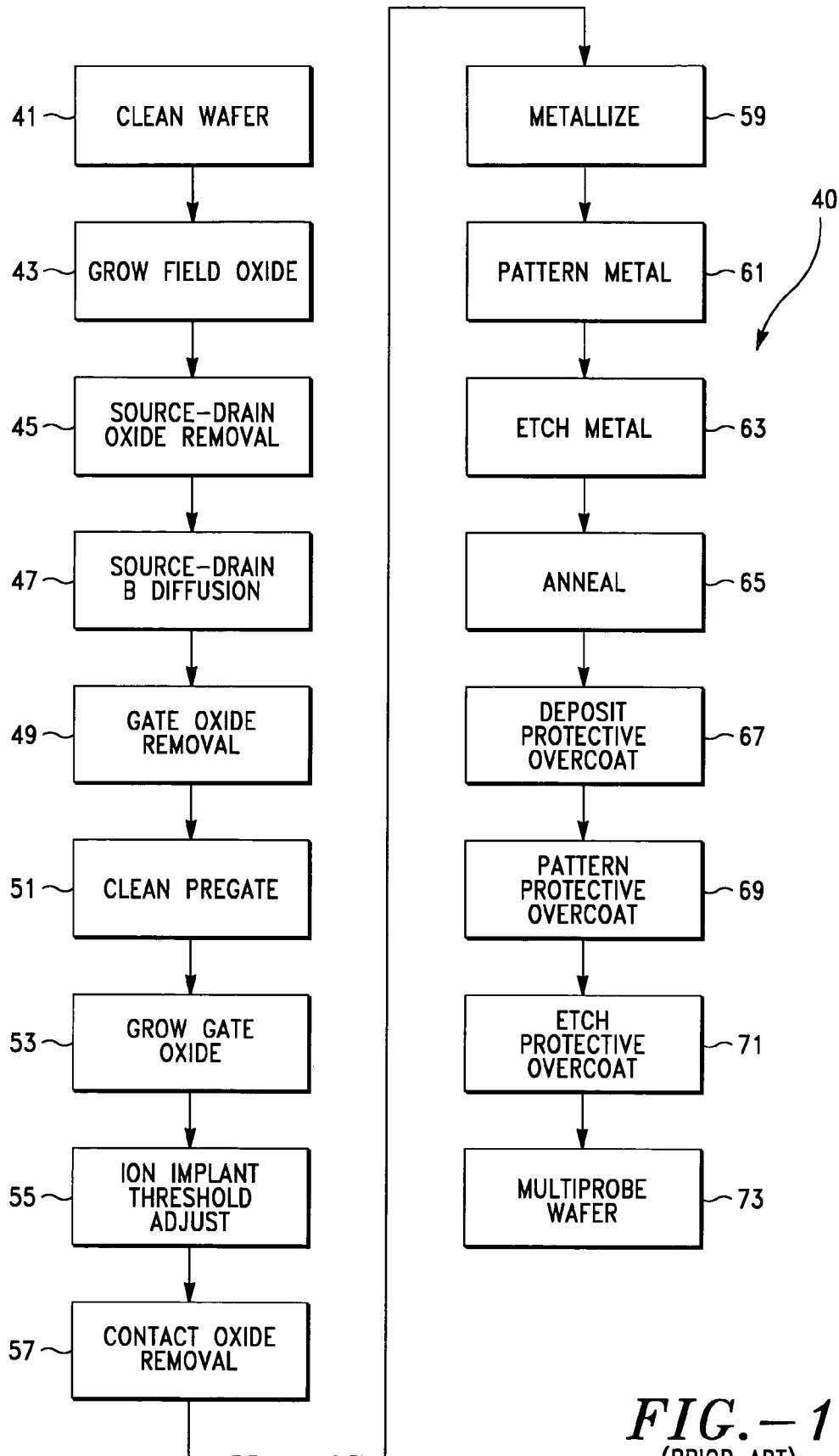
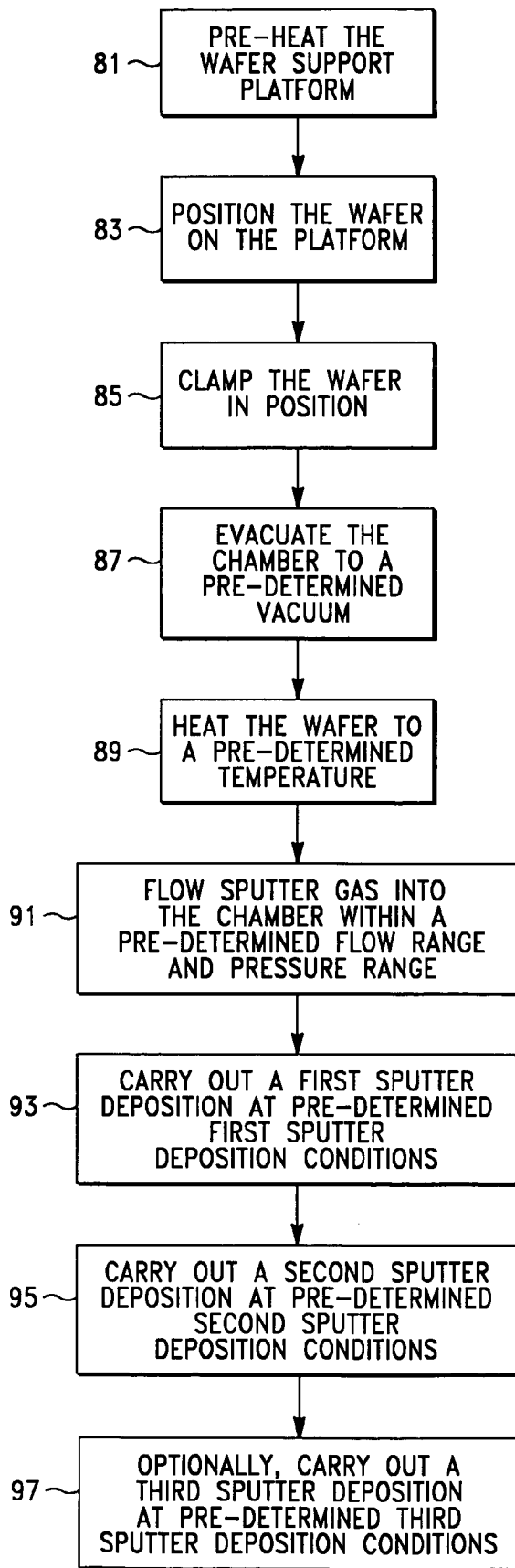


FIG. -1
(PRIOR ART)



80

FIG.-2
(PRIOR ART)

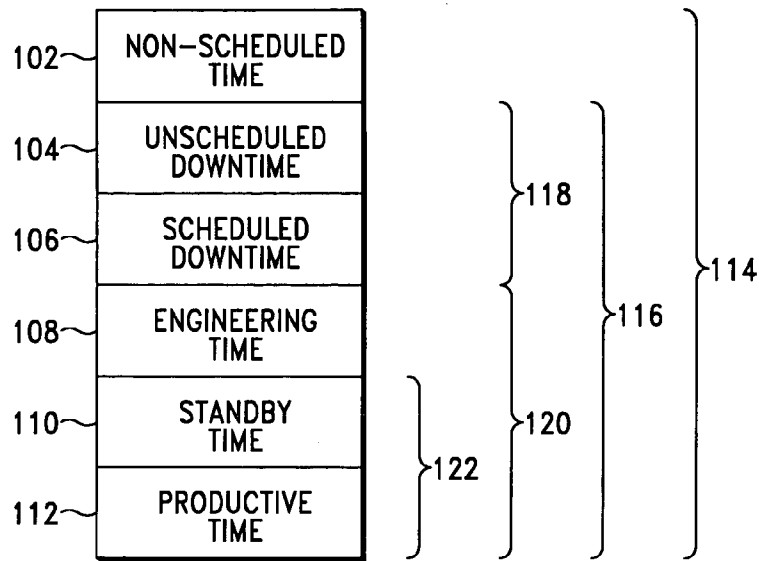


FIG.-3
(PRIOR ART)

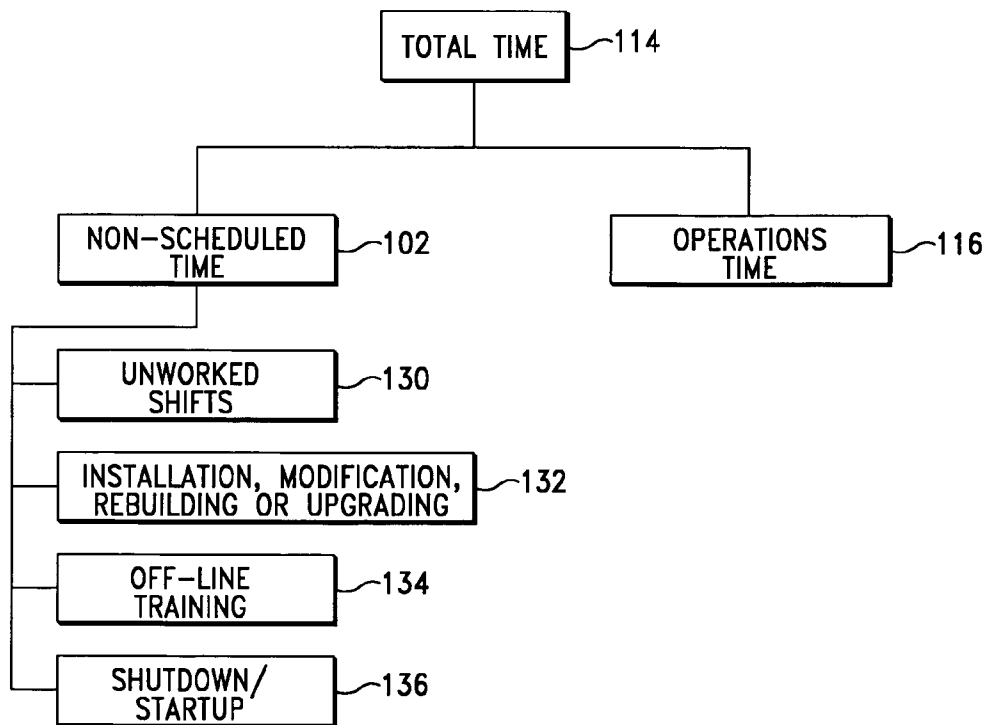


FIG.-4
(PRIOR ART)

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