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Funk et al.

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(54) **METHOD AND APPARATUS FOR THE MONITORING AND CONTROL OF A SEMICONDUCTOR MANUFACTURING PROCESS**

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(73) Assignee: **Tokyo Electron Limited**, Tokyo (JP)

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(21) Appl. No.: **11/087,071**

“Human Interface Standard for Semiconductor Equipment,” SEMI Draft Doc. #2783B, SEMI (Semiconductor Equipment and Materials International) (San Jose, CA), 15 pp., (1999).

(22) Filed: **Mar. 23, 2005**

“Specification for Human Interface for Semiconductor Manufacturing Equipment,” SEMI E95-1101, SEMI (Semiconductor Equipment and Materials International) (San Jose, CA), 15 pp., (2000, 2001).

(65) **Prior Publication Data**

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“Strategic Cell Controller (SCC) User-Interface Style Guide 1.0,” Technology Transfer 92061179A-ENG, SEMATECH, Inc. (Austin, TX), 204 pp., (Aug. 21, 1992).

Related U.S. Application Data

“ETCH Systems Advanced Process Control: Installation/Startup Manual, Revision 1.0.2,” Tokyo Electron America, Inc. (Austin, TX), 161 pp., (Jul. 9, 2002).

(63) Continuation of application No. PCT/US03/29980, filed on Sep. 25, 2003.

(60) Provisional application No. 60/414,425, filed on Sep. 30, 2002.

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(51) **Int. Cl.**
G06F 19/00 (2006.01)

Primary Examiner—Jayprakash N. Gandhi

(52) **U.S. Cl.** **700/121**; 710/96

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(58) **Field of Classification Search** 700/121,
700/96, 32, 95, 117

See application file for complete search history.

(57) **ABSTRACT**

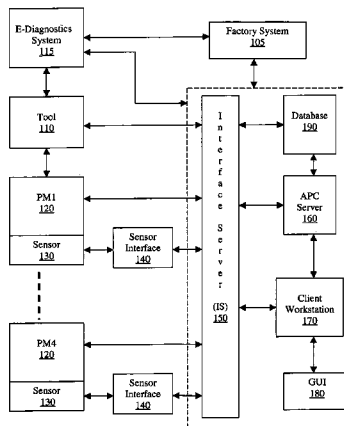
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An Advanced Process Control (APC) system including Graphical User Interfaces (GUIs) is presented for monitoring and controlling a semiconductor manufacturing process that is performed by a semiconductor processing system. The semiconductor processing system includes a number of processing tools, a number of processing modules (chambers), and a number of sensors, and the APC system comprises an APC server, database, interface server, client workstation, and GUI component. The GUI is web-based and is viewable by a user using a web browser.

33 Claims, 12 Drawing Sheets



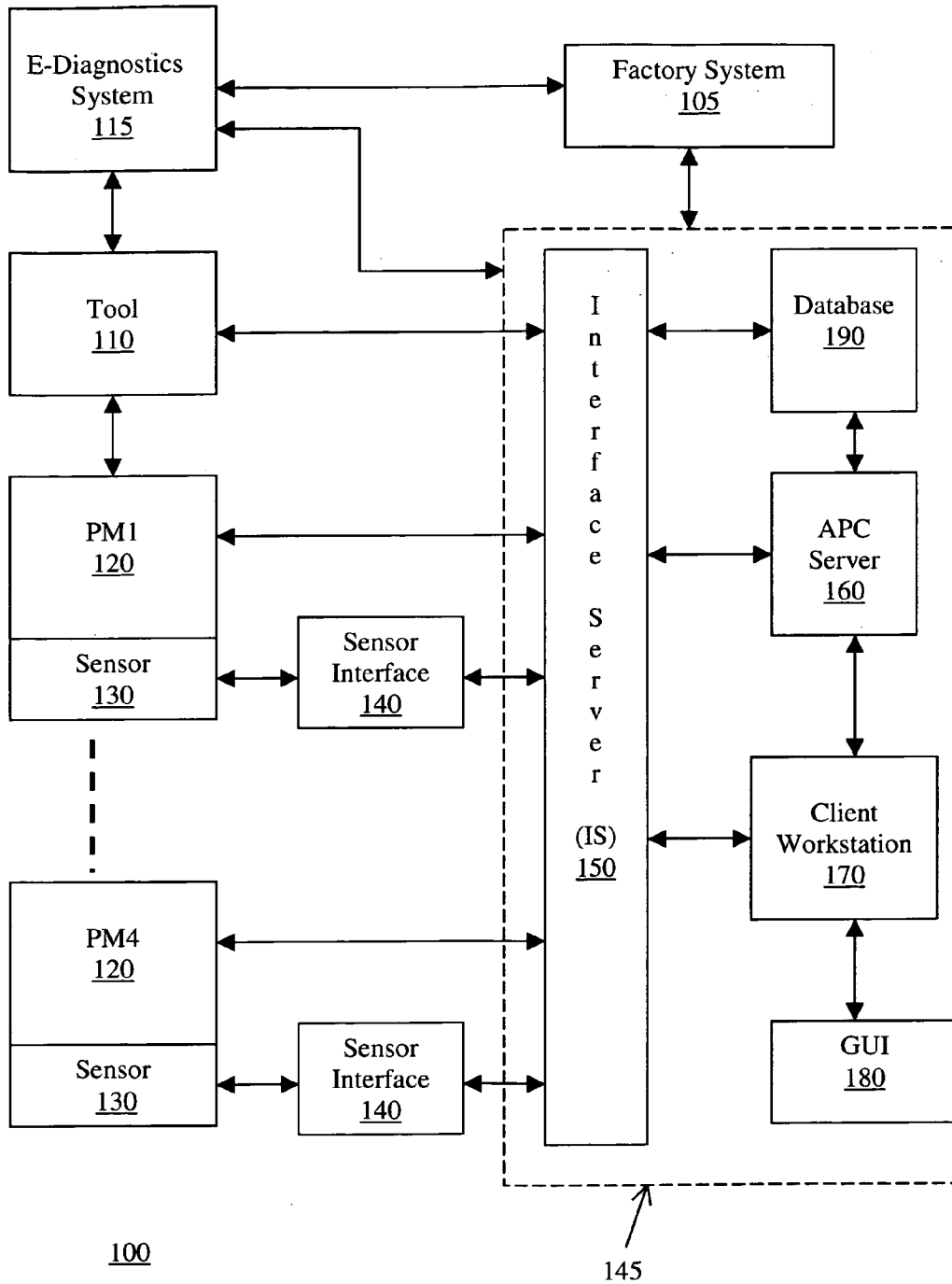


FIG. 1

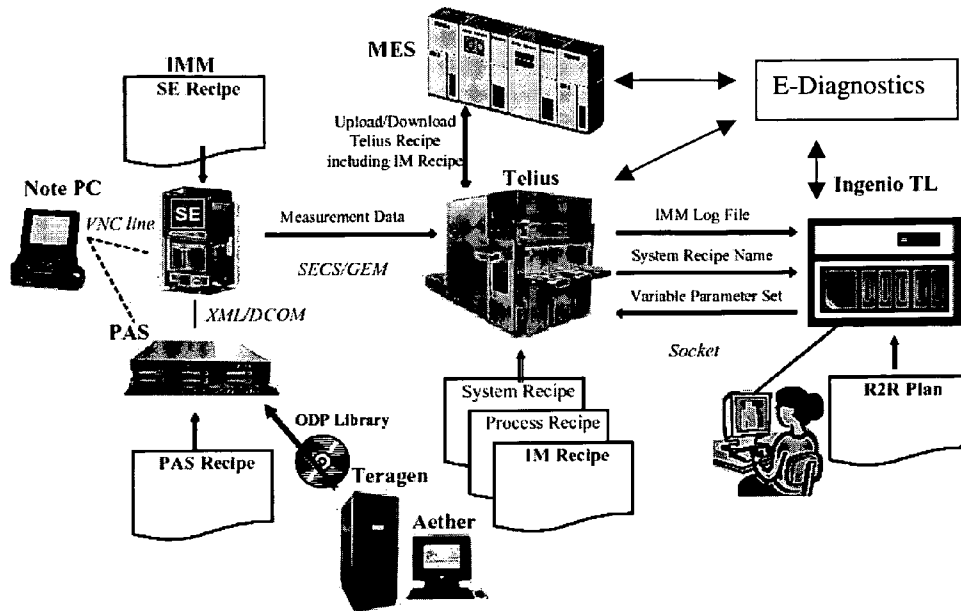


FIG. 2

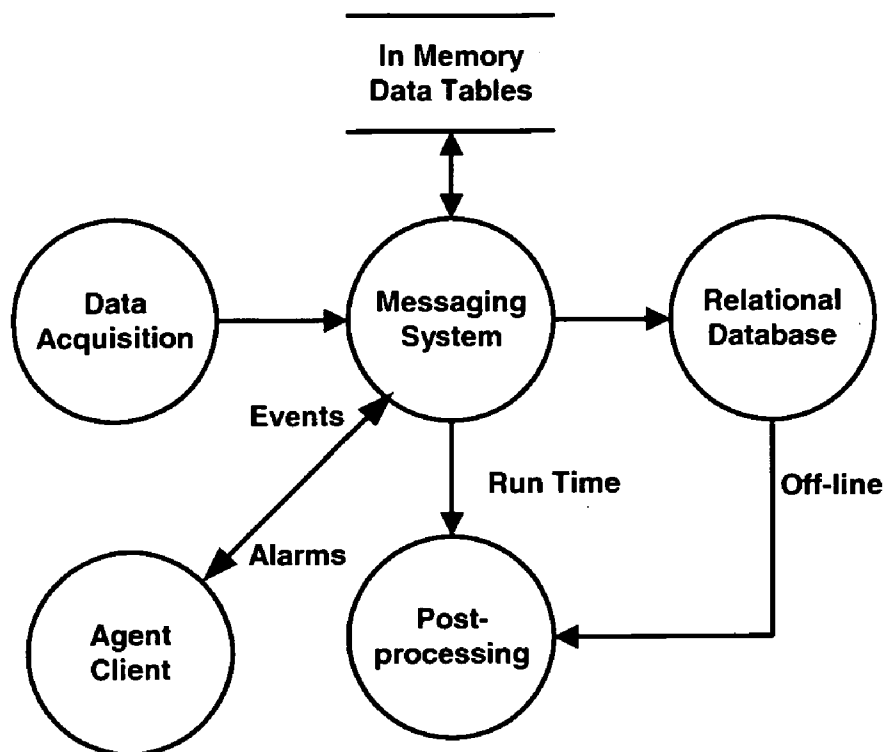


FIG. 3

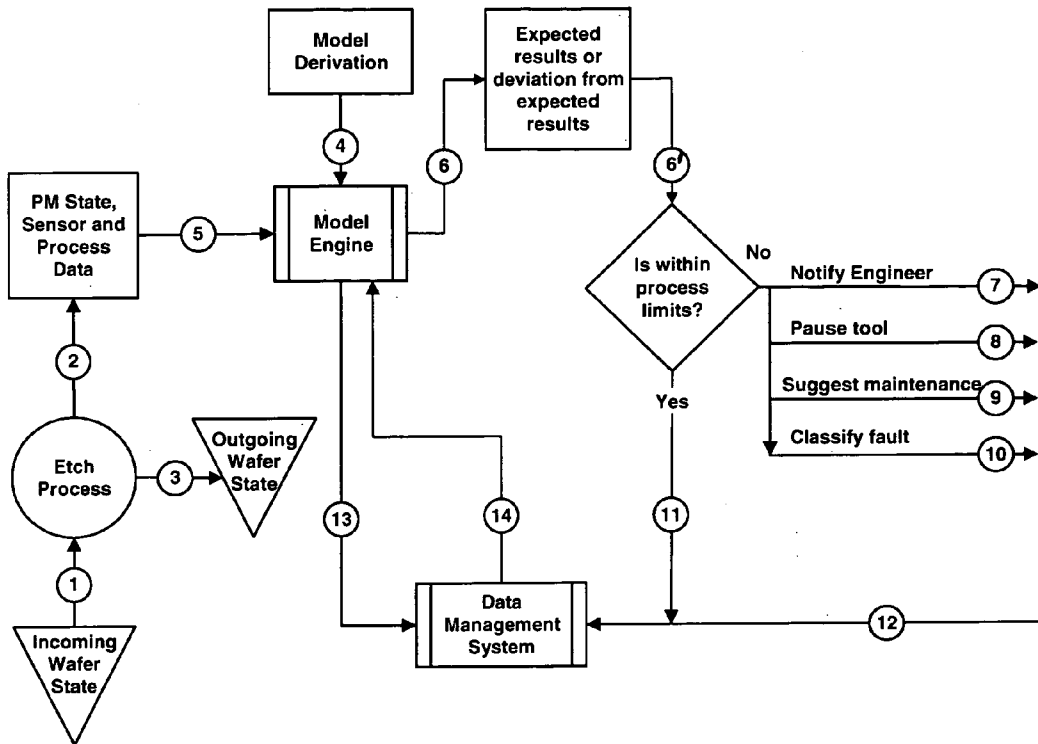


FIG. 4

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