APPLYING AUTONOMOUS SENSOR SYSTEMS IN LOGISTICS

Combining Sensor Networks, RFIDs and Software Agents

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Abstract: New sensor, communication and software technologies are used to broaden the facilities of tracing and tracing systems for food transports. An embedded assessing unit detects from sensor data collected by a wireless network potential risks for the freight quality. The estimation of the current maturing state of agricultural products will be supported by measurements of the gaseous hormone ethylene as an indicator for the ripening processes. A miniaturized high resolution gas chromatography is under construction. The system autonomously configures itself to a product specific supervision task based on data scanned by an RFID reader during freight loading. Mobile software agents accompany the freight along the supply chain. They pre-process the vast sensor data and submit only substantial changes to the freight owner.

Keywords: Wireless Sensor Networks, Autonomous Agents, Logistical Applications, Ethylene Sensors

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