

Call for Papers

Special Issue on 'Industrial Control over Wireless Networks (ICWN 08)'

International Journal of Robust and Nonlinear Control

Traditionally, industrial control systems have relied on hardwired information flows between sensor, actuator and control nodes. Over the last decade, distributed control systems have seen a transition to communication buses, such as fieldbus and Ethernet technology, and there is currently a major drive to take the next step in this evolution by moving to wireless communication. More efficient and lower costs for installation and commissioning are important factors. There is also a large potential for major technological advances due to increased flexibility and mobility, which may lead to totally new system designs. Admittedly, wireless technology is already present in many manufacturing and process industries. Wireless links are commonly used for long-range communication in SCADA systems. More recently, wireless LANs have been installed for applications with non-stringent communication requirements (e.g. logistics), and wireless instruments (temperature, pressure, etc.) are starting to appear on a smaller scale.

Therefore, there is an increasing interest to push the performance envelope of wireless industrial control, enabling feedback control of increasingly critical processes. This desire poses serious research challenges with respect to the strict requirements on availability, robustness, reliability and performance. This Special Issue is intended to present a snapshot of some recent achievements in control and communication for enabling industrial control over wireless networks. The issue will cover critical aspects of control, communication and software design and seeks for original contributions in wireless networked embedded control, including (but not limited to) the following areas:

- Distributed estimation and control under communication constraints
- Communication and network design for distributed control
- Control-communication co-design
- Software architectures for distributed control

Submission Details

Prospective authors are kindly requested to submit their manuscripts online, no later than 30 March 2008 to <http://mc.manuscriptcentral.com/rnc-wiley>. Please follow the instructions under 'For Authors'.

When submitting your article to this Special Issue, make sure that you have selected the correct article type in the online submission system: 'Special Issue Article (ICWN08)'.

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