

Contents

| | | |
|----------|---|------------|
| 1 | Towards the Next Generation of Industrial Cyber-Physical Systems | 1 |
| | Armando W. Colombo, Stamatis Karnouskos and Thomas Bangemann | |
| 2 | State of the Art in Industrial Automation | 23 |
| | Thomas Bangemann, Stamatis Karnouskos, Roberto Camp, Oscar Carlsson, Matthias Riedl, Stuart McLeod, Robert Harrison, Armando W. Colombo and Petr Stluka | |
| 3 | The IMC-AESOP Architecture for Cloud-Based Industrial Cyber-Physical Systems | 49 |
| | Stamatis Karnouskos, Armando W. Colombo, Thomas Bangemann, Keijo Manninen, Roberto Camp, Marcel Tilly, Marek Sikora, François Jammes, Jerker Delsing, Jens Eliasson, Philippe Nappey, Ji Hu and Mario Graf | |
| 4 | Promising Technologies for SOA-Based Industrial Automation Systems | 89 |
| | François Jammes, Stamatis Karnouskos, Bernard Bony, Philippe Nappey, Armando W. Colombo, Jerker Delsing, Jens Eliasson, Rumen Kyusakov, Petr Stluka, Marcel Tilly and Thomas Bangemann | |
| 5 | Migration of SCADA/DCS Systems to the SOA Cloud | 111 |
| | Jerker Delsing, Oscar Carlsson, Fredrik Arrigucci, Thomas Bangemann, Christian Hübner, Armando W. Colombo, Philippe Nappey, Bernard Bony, Stamatis Karnouskos, Johan Nessaether and Rumen Kyusakov | |

| | | |
|-----------|---|------------|
| 6 | Next Generation of Engineering Methods and Tools for SOA-Based Large-Scale and Distributed Process Applications. | 137 |
| | Robert Harrison, C. Stuart McLeod, Giacomo Tavola, Marco Taisch, Armando W. Colombo, Stamatis Karnouskos, Marcel Tilly, Petr Stluka, François Jammes, Roberto Camp, Jerker Delsing, Jens Eliasson and J. Marco Mendes | |
| 7 | Migration of a Legacy Plant Lubrication System to SOA. | 167 |
| | Philippe Nappey, Charbel El Kaed, Armando W. Colombo, Jens Eliasson, Andrey Kruglyak, Rumen Kyusakov, Christian Hübner, Thomas Bangemann and Oscar Carlsson | |
| 8 | Implementing Circulating Oil Lubrication Systems Based on the IMC-AESOP Architecture | 183 |
| | Roberto Camp and Andrei Lobov | |
| 9 | Plant Energy Management | 203 |
| | Stamatis Karnouskos, Vladimir Havlena, Eva Jerhotova, Petr Kodet, Marek Sikora, Petr Stluka, Pavel Trnka and Marcel Tilly | |
| 10 | Building System of Systems with SOA Technology: A Smart House Use Case | 219 |
| | Jerker Delsing, Jens Eliasson, Jonas Gustafsson, Rumen Kyusakov, Andrey Kruglyak, Stuart McLeod, Robert Harrison, Armando W. Colombo and J. Marco Mendes | |
| 11 | Trends and Challenges for Cloud-Based Industrial Cyber-Physical Systems | 231 |
| | Stamatis Karnouskos, Armando W. Colombo and Thomas Bangemann | |
| | Book Editors. | 241 |
| | Index | 245 |

Industrial Cloud-Based Cyber-Physical Systems

The IMC-AESOP Approach

Colombo, A.; Bangemann, Th.; Karnouskos, S.; Delsing, J.; Stluka, P.; Harrison, R.; Jammes, F.; Lastra, J.L. (Eds.)
2014, XX, 245 p. 114 illus., 89 illus. in color., Hardcover
ISBN: 978-3-319-05623-4