ISA Bahrain Automation Conference and Exhibition 2017

ISA Volume 522

Manama, Bahrain 20 April 2017

ISBN: 978-1-5108-5861-9

Printed from e-media with permission by:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2017) by International Society of Automation - ISA All rights reserved.

Printed by Curran Associates, Inc. (2018)

For permission requests, please contact International Society of Automation - ISA at the address below.

International Society of Automation - ISA 67 Alexander Drive Research Triangle Park, NC 27709 USA

Phone: (919) 549-8411 Fax: (919) 549-8288

info@isa.org

Additional copies of this publication are available from:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571 USA

Phone: 845-758-0400 Fax: 845-758-2633

Email: curran@proceedings.com Web: www.proceedings.com

TABLE OF CONTENTS

DIGITAL PLANTS_CONNECTED NETWORK ENTERPRISE	
Plant Digitization with FDI, OPC UA and the NAMUR Open Architecture	
H. Wingrove	
Operations Excellence: Improve Human Reliability, Safety and Productivity	16
Securing Data Quality in Digital Plants and Connected Enterprise by Applying Data Modelling	
Software	25
T. Cardier	
INDUSTRIAL CONTROL SYSTEM CYBERSECURITY	
Case Studies: Implementing IEC 62443 Zones and Conduits with Firewalls or Data Diodes	32
ICS Cybersecurity: How Do We Move from an IT-Centric to a Production-Centric Cybersecurity	
Model?	40
R. El Hajj	
How Do We Move from an IT-Centric to a Production-Centric Cybersecurity Model?	48
PROCESS ANALYZERS	
Optical GC: Tunable Filter Spectrometer (TFS), an Opportunity, Not to MissAn Optical	
Hydrocarbon Analyzer for Real-Time, Speciated, Hydrocarbon Gas Measurement	54
Compiled from the Travel Experiences of Sriram Across the Deserts of Arabian Peninsula: Inspired	
by True Arabian Plant Experience!	84
A. Sriram Combustion Control and Safety – A Comparison between Zirconium Oxide/Catalytic and Tunable	
Diode (TDL) Technologies	9/
S. Firth	······
Optimising the Coke Drum Unit in Refineries	104
U. Chauhan	

Author Index