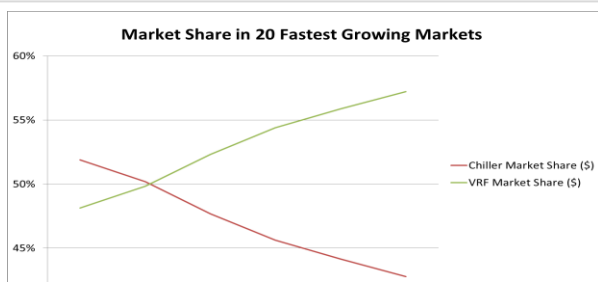


To order, contact: Steve Turner
 steve.turner@bsria.co.uk
 T +44 (0)1344 465610

MARKET BRIEFING & UPDATING SERVICE

Threats and Opportunities in the Building Automation and Control Systems Market

New technologies, innovations and novel business models are threatening to disrupt the traditional BACS business. From the evolution of intelligent HVAC equipment to cloud based software and services, from utilities to software start-ups, this report provides you with a sharp, incisive summary of key trends, threats and opportunities in the Global Building Automation and Control Systems (BACS) market. It forms part of a regular subscription service to enable you to keep track of the most important developments in this constantly changing field.



Why you need this report

This report provides you with insights into:

- Key companies likely to enter BACS markets
- How BACS equipped variable refrigerant flow (VRF) systems in the \$9bn VRF market are affecting the HVAC and BACS markets
- How increasing penetration of smart home systems into the commercial sector may be counteracted by communicating commercial room controls.
- What Telcos and Utilities are doing in this sector
- What you need to know about The Cloud
- What is happening in energy management software, third party software and “big data”
- The relationship between BACS and FM
- The wider opportunity to expand “beyond BACS”

Supported by facts, figures and enlivened by clear charts and illustrations, it is presented in an accessible 96-slide PowerPoint format. It presents new research and draws on BSRIA’s long standing expertise in the field of Building Automation and related areas.

Contents Listing

Section	Page
1 Suppliers of DX Solutions Entering “Regular” BACS market	9
2 Major HVAC Solutions with Becoming More “Intelligent”	15
3 Do VRF Systems Pose a Threat to BACS?	19
4 Can Residential Solutions Compete with BACS?	26
5 Is there a role for communicating room controllers?	38
6 BACS Potential For Telcos and Other Utilities?	40
7 Third Party Software Applications and Big Data	45
8 The security risk to automated buildings	60
9 Facilities Management and Energy Services	63
10 BACS Systems Moving to the Cloud	68
11 The Wider Automation Opportunity	77
12 Conclusions	81
Appendix: What do we Mean by BACS?	86

Single Report: £2500 / 4-Edition Subscription: £5000
 Availability: May 2013



Key Findings

The global BACS market is currently worth more than \$20 Billion and continues to grow year on year despite a global recession. This lucrative market is continually attracting new entrants, and now new technologies, innovations and novel business models are threatening to disrupt the traditional business. New players are entering the BACS market:

- Leading direct expansion (DX) HVAC equipment suppliers such as Daikin, Panasonic, Samsung, LG are building control and energy management capability into their solutions.
- Cloud and App based building energy management solutions (BEMS) from companies like BuildingIQ, SkyFoundry, Mios, C3 Energy etc. are providing functionality not previously available in a BACS
- “Residential” smart home systems from the likes of Busch-Jaeger, Gira and Hager are being used in light commercial buildings (over 60% of “smart home” system sales in Germany)
- Companies like Verizon, Swisscom, E.ON and Deutsche Telekom are developing connected home offerings

Full Table of Contents

1. Cover Page
2. Report Details
3. **Executive Summary**
4. Overview – Potential Challenges to BACS
5. Table of Contents
6. The Scope of the Study
7. Potential Threats and Challenges to BACS
8. Threats and Opportunities for BACS
9. **1 SUPPLIERS OF DX SOLUTIONS ENTERING “REGULAR” BACS MARKET**
10. Examples of DX Providers Moving into BACS 1
11. Examples of DX Providers Moving into BACS 2
12. Could Hitachi expand into broader BACS offering?
13. Can Mitsubishi exploit its automation technology?
14. DX Suppliers Moving into ‘Regular’ BACS - Limitations
15. **2 MAJOR HVAC PLAYERS BECOMING MORE “INTELLIGENT”**
16. In what ways are HVAC Systems becoming more intelligent?
17. The Roadmap from HVAC to BACS and BEMS
18. HVAC Solutions with Built in Controls - Limitations
19. **3 – DO VRF SYSTEMS POSE A THREAT TO BACS?**
20. What is happening in the fastest growing air-conditioning markets?
21. VRF systems are gaining most in ground in the fastest growing markets
22. Is VRF developing its own BACS capability?
23. The BACS Strategy of The Leading VRF Suppliers
24. VRF Interconnectivity - Limitations
25. Limitations of VRF Solutions
26. **4 CAN RESIDENTIAL SOLUTIONS COMPETE WITH BACS?**
27. Is ‘regular’ BACS targeting the majority of commercial buildings?
28. Smart Home solutions are already penetrating the commercial sector
29. The Smart Homes market is comparatively regionalised
30. The ‘Smart Home’ is becoming more relevant to the Business Market
31. Evolution Brings Home Automation Closer to ‘Regular’ BACS Market
32. Market Overview of Heating Controllers
33. Intelligent Heating Controller Overview by Sector
34. Limitations of heating manufacturer offer
35. Valves and Actuators Evolution and Disruptive Factors
36. BACS Penetration USA – only 1/5 buildings have a BACS
37. Smart Home Solutions – Limitations in ‘Regular’ BACS Market
38. **5 IS THERE A ROLE FOR COMMUNICATING ROOM CONTROLLERS?**
39. Communicating Room Controllers fill the gap
40. **6 BACS POTENTIAL FOR TELCOS AND OTHER UTILITIES?**
41. Examples of Telco and Cabling Players in Smart Home Market
42. Other Telecoms Providers in the Building Management Arena
43. Are Telco- and cable-based service based systems relevant to BACS?
44. Limitations of Telecoms and Other Utilities
45. **7 THIRD-PARTY APPLICATIONS AND ‘BIG DATA’**
46. The Growth of Big Data
47. Big Data - Towards the Information-Based Building
48. How to achieve truly intelligent building management
49. Big data – Examples of Practical applications
50. Big Data and other Factors
51. Big Data Strategies of Current Players
52. Enterprise Software Response to Big Data : IBM
53. Has IBM’s Interest in Smart Buildings peaked?
54. Enterprise Software Response to Big Data : Microsoft
55. Other Entrants to Big Data Building Analytics 1
56. Other Entrants to Big Data Building Analytics 2
57. Examples of Other Third Party Applications
58. Current Approaches to the Challenge of Third-Party Applications
59. Limitations of Third Party Software Applications
60. **8 THE SECURITY RISK TO AUTOMATED BUILDINGS**
61. Rising Instances of Building Security Compromises
62. Building Cyber Security – Some Key Considerations
63. **9 FACILITIES MANAGEMENT AND ENERGY SERVICES**
64. Leading Global Players in Facilities Management
65. Energy Service Markets and Building Automation
66. The Future role of Energy Services Companies
67. Limitations of Facility Management and Energy Service Companies
68. **10 BACS SYSTEMS MOVING TO THE CLOUD**
69. General Challenges to Cloud-based Solutions 1
70. General Challenges to Cloud-based Solutions 2
71. BACS In The Cloud is already taking off
72. Predicted movement of key BACS Services to the Cloud
73. The four global BACS leaders are already in the Cloud
74. Many other suppliers are providing cloud-based services. Examples include...
75. The Cloud – A Growing Opportunity
76. The Limitations of Cloud-Based Solutions
77. **11 THE WIDER AUTOMATION OPPORTUNITY**
78. Key Projected Areas of Growth
79. Global Leaders in Air Conditioning, Heating and Renewables
80. The Limitations of Expanding into Wider BACS
81. **12 Conclusions**
82. Trend-based Probability Tree
83. Some Strategies for Continued Success in Building Automation 1
84. Some Strategies for Continued Success in Building Automation 2
85. Towards the Information-based Building?
86. **Appendix: What do we mean by BACS?**
87. BACS and EMS – A Definition
88. Main Characteristics of the Existing BACS Market
89. The current global market in BACS is worth over \$20 Billion
90. Distinction Between Global and Local Players
91. Regional breakdown of World BACS* Sales
92. World Market Share - Total BACS Business
93. Communication Protocols: Strong BACnet Momentum in Non-residential
94. The Evolution of Open Standard Communications Protocols
95. Open Protocols Stimulate Competition
96. Overview of the Global BACS market