Market Development and the Stainless Steel Development Movement: Examples of Success from Around the Globe

Richard Matheson
Executive Director
Why are SSDAs different?

- SSDAs are delivery mechanism for the messages that deliver the future and secure the existing market for stainless steel
- With the Mills SSDAs are the only mechanisms doing that
- ISSF and Team Stainless are overarching, but not delivery mechanisms
Influence

ASSDA

SSDA’S

SUPPLIERS

GOVERNMENT → STANDARDS → MILLS → SUPPLIERS → MANUFACTURERS → ASSET OWNERS/SPECIFIERS

1 Positive image
2 Information sharing
3 Improving business environment
Services whole supply chain

- Technical advice
- Website publication
- Educational system
- Supply chain assistance
- New business leads

Members

- Credible
- Independent
- Acceptable/attractive

Asset Owners
Fabricators
Specifiers
Suppliers

ASSDA
Market development projects

- Pressure and waste plumbing
- Bus bodies
- Reinforcing bar
- Welding standards
- Welding safety
- Balustrades
- And many others

Two not previously mentioned that have led to new applications include
- Tea staining
- Structural
Tea staining

- Secured best installations seen anywhere resistant to this problem
- 100 of km’s of stainless for barriers
- Market for stainless and ended value destruction
- greater understanding and relationships with asset owners and specifiers that are still delivering results for the industry today
- Our influence on this issue stretching to other shores
Whole of Life Cost Comparison and Cost Benefit Analysis For Steel Structures Constructed in the Foreshore zone

Final Report

A Report submitted in partial fulfillment of the degree of Bachelor of Civil Engineering with Advanced Studies

Carried Out in Conjunction With:
Griffith University, Industrial Affiliates Program 4001ENG
and
Gold Coast City Council

Student: Jordan Cocks 02588736
Industry Supervisor: Paul Cossity
Academic Advisor: Gary Chui

Gold Coast City Council
Whole of life considerations are starting to make asset custodians “push back” in areas such as playground, gymnasium equipment and similar items purchased for foreshore zones.

No thanks, we would rather pay for stainless!
What does the BSSA do?

Help and Advice
- The Stainless Steel Advisory Service (SSAS)
- To date, over 39,000 enquiries answered (80pc manufacturers
- Website: www.bssa.org.uk (> 1.5 million hits per year)

Training & Education
- Starter Workshops
- Fabrication Seminars
- Stainless Steel Specialist Courses
- Bespoke in-company courses (e.g. Duplex)
- Open seminars (e.g. CE Marking)
- eNewsletters
- Information campaigns such as “100 Not Out!” and “50 Grades of Stainless Steel”

Events
- Forums
- Conferences
- Networking social functions

2013 A Series of Centenary Events in Sheffield For the Industry
Bridging the Gap...

Built completely from stainless steel, a unique £1.8 million, 200ft bridge links Bristol's Temple Quay harbour with the city centre. The bridge was part of a £200 million regeneration scheme in Bristol.

Made from 2205 duplex stainless steel, the bridge has thousands of tiny holes enabling artificial lights to shine through, giving the bridge a spectacular appearance at night. Duplex stainless steels are used wherever environmental conditions combine with the need for a high load-bearing strength, making duplex a popular choice for bridges.

The longer life span and significantly lower maintenance costs compared to other materials make stainless steel a good choice for bridging the gap!
Early Study which revealed developing opportunities, particularly in bio gas and, potentially, in tidal energy.
Seminars

- SSN organizes seminars devoted to stainless steel, 100-150 listeners/event.
- Each of them is dedicated to a specific theme such as duplex steel, water management, architecture, building and construction.
- Speakers are: producers, academics, end-users,
2013 – seminar in Poznań
GDP per capita in Poland

Source: Polityka, nr 18/2014
Poland – example of success

- Poland – nearly tripled s/s consumption growth within the decade
- The most s/s oriented market in CEE
- 25 years. From amateur to professional market
- We learned a lot from our colleagues…
CASE STUDY 1 – INCREASING THE USAGE OF STAINLESS STEEL IN ARCHITECTURAL APPLICATIONS

Major focus in last 2 years
Case Study 1

* Tertiary Educational Institutions
  - Architecture/design faculties
  - Final year students
  - Content
    • Introduction to stainless steel – relevant grades, relevant corrosion issues, finishes
    • Sustainability issues
    • Good fabrication/installation practices
    • Relevant design/building specifications
  - Sponsorship of design competition
  - 7/10 South African universities
SASSDA

Case Study 1

ABSTRACT SUBMISSION QUESTIONNAIRE

Name of corresponding author

Corresponding author email address

Enter the FULL TITLE of your submission. This will be used for printing in the final program

Sustainability considerations in the use of stainless steels in architecture.

Please enter an abstract of your paper (max. 300 words):

Stainless steels have been widely used in architecture for many years, with stainless steel cladding/roofing on the Chrysler Building, built in 1930 in New York, being one of the first high profile uses of the material in an architectural application. Over and above their primary property of corrosion resistance, much of the traditional usage of stainless steels in the architectural sector has related to the material’s aesthetic appeal, enhanced by the wide range of grades and finishes that are increasingly available. However, with the increasing focus on issues such as resource utilization and climate change, sustainability has also become a significant component of the decision-making process in the architectural industry, such considerations extending to materials of construction for differing applications. This paper will cover an introduction to stainless steels (with specific reference to grades and finishes applicable to the architectural industry), followed by a review of relevant sustainability and ecological factors applicable to stainless steels, including but not restricted to - durability/lifetime, recyclability, restoration/re-use possibilities, structural advantages and emission/run-off benefits. Case studies demonstrating some of the points raised will be included.

Authors and Affiliations

Affiliation: Southern Africa Stainless Steel Development Association

Please supply additional contact details for each author (name, email addresses and telephone number) Not applicable

Do you confirm that at least one of the authors will register and attend the congress to present your work should it be accepted? Yes
Case Study 1

Photographs courtesy of Columbus Stainless, GKD Buismet and Rimex
SOUTH AFRICAN STAINLESS STEEL MARKET:
PER CAPITA CONSUMPTION OF
STAINLESS STEEL (KG/CAPITA)

Source: ISSF
13. JSSA’s Recent Market Development Activities

(Example of recent activity-1-) The 15th JSSA Award Presentation

JSSA Awards were first established in 1993 for the purpose of developing new stainless applications. Candidate products/components were solicited from all eligible parties in 2013 for The 15th JSSA Awards and the Presentation Ceremony was held in March 2014.

Winner of the Highest Award
Project Name: Marina Bay Sands Art Science Museum
14. JSSA’s Recent Market Development Activities

(Example of recent activity -2-) Implementation of “seminars on demand”

For public organizations including user associations, we set up “seminars on demand” (which are seminars held at the times and places designated by the clients on subjects requested by them) in July 2012 and so far held seven such seminars. We intend to cover wider areas in the future. In addition, volunteer groups hold their separate seminars.

(Table 2) JSSA’s “seminars on demand” held to date

<table>
<thead>
<tr>
<th>Date</th>
<th>Client organizations</th>
<th>Seminar subjects</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 20, 2013</td>
<td>Tohoku Stainless Steel Distributors Association</td>
<td>Corrosion resistance and maintenance, Welding and applications</td>
<td>30</td>
</tr>
<tr>
<td>October 3, 2013</td>
<td>Kanto Kitchen Equipment Cooperative Union</td>
<td>Overview of stainless steel</td>
<td>46</td>
</tr>
<tr>
<td>November 22, 2013</td>
<td>Kanagawa Industrial Technology Center</td>
<td>Corrosion resistance and maintenance, Processing</td>
<td>50</td>
</tr>
<tr>
<td>November 29, 2013</td>
<td>Aichi Industrial Science &amp; Technology Center</td>
<td>Corrosion resistance and maintenance, Welding</td>
<td>80</td>
</tr>
</tbody>
</table>
15. JSSA’s Recent Market Development Activities

(Example of recent activity -3-) Setup of member website

Preparations are under way to set up a dedicated website for JSSA member companies. One of the purposes is to carry data/papers for market development on the site to provide support our members so that they may effectively explain advantages of stainless steel.

(Fig. 11) Image of how JSSA’s general website and member website may be utilized.
Tokyo Water Pipe Technology

• The Tokyo Water Authority has overcome high leakage rates through the systematic installation of 316 stainless steel service pipes to link trunk piping with all dwellings in Tokyo.
• Installations began in 1980 to solve the problem of water leakage from corrosion and seismic activity.
• The project received the IWA Global and East Asian Awards in 2012.
2. Dissemination activities

Focus on online communication:
- about 140 documents available on the websites www.euroinox.org and http://mobile.euro-inox.org in up to 13 languages
- Materials and applications
- Architecture, building and construction
- Transport
- Stainless steel in the home
- Environment and human health
2. Dissemination activities

Mobile website in addition to English, now also in:

- Czech
- Dutch
- Finnish
- French
- German
- Italian
- Polish
- Spanish
- Swedish
- Turkish
## 2. Dissemination activities

### Number of downloads (from April 2013 to March 2014)

<table>
<thead>
<tr>
<th>Month</th>
<th>PDFs</th>
<th>Videos</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 2013</td>
<td>79,681</td>
<td>355</td>
</tr>
<tr>
<td>May 2013</td>
<td>66,472</td>
<td>266</td>
</tr>
<tr>
<td>June 2013</td>
<td>73,547</td>
<td>295</td>
</tr>
<tr>
<td>July 2013</td>
<td>69,534</td>
<td>236</td>
</tr>
<tr>
<td>August 2013</td>
<td>57,936</td>
<td>266</td>
</tr>
<tr>
<td>September 2013</td>
<td>59,894</td>
<td>263</td>
</tr>
<tr>
<td>October 2013</td>
<td>75,365</td>
<td>471</td>
</tr>
<tr>
<td>November 2013</td>
<td>75,860</td>
<td>332</td>
</tr>
<tr>
<td>December 2013</td>
<td>70,568</td>
<td>207</td>
</tr>
<tr>
<td>January 2014</td>
<td>84,400</td>
<td>339</td>
</tr>
<tr>
<td>February 2014</td>
<td>79,690</td>
<td>283</td>
</tr>
<tr>
<td>March 2014</td>
<td>91,219</td>
<td>365</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>884,166</strong></td>
<td><strong>3678</strong></td>
</tr>
</tbody>
</table>
TRAINING (2002-2013)
- We have trained 3,112 participants in our technical courses from 2002 to 2013
- We have an online program with 506 participants

TECHNICAL SUPPORT:
- We have an average of 150 documented specialized assessments per year

UNIVERSITY LINKING (2006-2013)
- We are present at universities in different ways, ranging from lectures, seminars or complete university academic programs topics
- We have been at 59 campus of 35 universities contacting 13,222 students for 75,715 students-hr.
- Since sep 2011 we have our online program with the participation of 920 students

PUBLICATIONS:
- YouTube Channel
- Aplica Inox site
- IMINOX Blog
A new **interactive virtual space** where publications about characteristics and application of stainless steel worldwide are regularly shared.
In an average year, 1,122 people considered a high or medium IMINOX impact level in stainless consumption growth in Mexico.

<table>
<thead>
<tr>
<th>Impact Level</th>
<th>TPSSS Face to face (120 people conclude)</th>
<th>TPSSS Online (40 people conclude)</th>
<th>TECHNICAL SUPPORT (120 queries)</th>
<th>UNIVERSITY LINKING (900 students in seminars or complete university academic programs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>49 people</td>
<td>18 people</td>
<td>76 people</td>
<td>873 people</td>
</tr>
<tr>
<td>Medium</td>
<td>60 people</td>
<td>18 people</td>
<td>28 people</td>
<td>27 people</td>
</tr>
<tr>
<td>Low</td>
<td>9 people</td>
<td>4 people</td>
<td>16 people</td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>2 people</td>
<td>0 people</td>
<td>0 people</td>
<td></td>
</tr>
</tbody>
</table>

An average impact of 1,122 people is generated in one year. Medium to high impact in using stainless steel.
• Cooperation with Ministry of Health & Institute of healthcare in order to updating DM 21/3/73

...lately
“Maintaining and consolidating the sectors in which stainless steel is widely used by safeguarding the quality

1. FOOD Contact 2008/2013

SPECIFIC RESEARCH WORKS ON DECONTAMINATION AND CLEANIBILITY WITH UNIVERSITY OF MILAN

UNIVERSITÀ DEGLI STUDI DI MILANO

TECHNICAL SEMINARS
MIGRATION TESTS
LAWS
MAGAZINE INOSSIDABILE
SUPPORT BY THE PRESS
SOME EXAMPLE

“Maintaining and consolidating the sectors in which stainless steel is widely used by safeguarding the quality of food production.”

MUNICIPALITY OF MILAN

Plastic containers completely replaced by stainless steel containers in the school’s dining halls.

FOOD Contact
SOME EXAMPLE

“Maintaining and consolidating the sectors in which stainless steel is widely used by safeguarding the quality

1 FOOD Contact

2008/2013

300 series FAKE

INTENSIFIED CHECKS
"Maintaining and consolidating the sectors in which stainless steel is widely used by safeguarding the quality"

1. FOOD Contact 2008/2013 300 series FAKE

COURSES c/o CUSTOMS
ARTICLES ON SPECIFIC MAGAZINES
COMPLAINT TO THE NAS (CARABINIERI) OF COMPANIES IMPORTERS OF COUNTERFEIT GOODS
ADVISORY SERVICE
MAGAZINE INOSSIDABILE
SOME EXAMPLE

“Maintaining and consolidating the sectors in which stainless steel is widely used by safeguarding the quality”

1. FOOD Contact

2008/2013

MORE REQUESTS FOR CERTIFICATION
ART Sector in India
Consumption trends of SS by End use sectors - 000 tons

<table>
<thead>
<tr>
<th>Sector</th>
<th>2004</th>
<th>2012</th>
<th>CAGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process Industry &amp; Power</td>
<td>113</td>
<td>439</td>
<td>18.48%</td>
</tr>
<tr>
<td>Engineering</td>
<td>58</td>
<td>195</td>
<td>16.47%</td>
</tr>
<tr>
<td>Electro Mechanical Industries</td>
<td>17</td>
<td>24</td>
<td>4.22%</td>
</tr>
<tr>
<td>ART</td>
<td>23</td>
<td>218</td>
<td>32.39%</td>
</tr>
<tr>
<td>Cookware &amp; Durables</td>
<td>868</td>
<td>1259</td>
<td>4.75%</td>
</tr>
<tr>
<td>ABC</td>
<td>28</td>
<td>152</td>
<td>23.73%</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>46</td>
<td>133</td>
<td>14.18%</td>
</tr>
</tbody>
</table>

CAGR for each sector:
- Process Industry & Power: 18.48%
- Engineering: 16.47%
- Electro Mechanical Industries: 4.22%
- ART: 32.39%
- Cookware & Durables: 4.75%
- ABC: 23.73%
- Miscellaneous: 14.18%
## Upcoming Metro Projects in India

<table>
<thead>
<tr>
<th>Year</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cars</td>
<td>486</td>
<td>108</td>
<td>400</td>
<td>440</td>
<td>520</td>
<td>264</td>
</tr>
</tbody>
</table>

### 750 VDC based projects
- Kochi, 84 cars
- Bangalore Ph II, 200 cars
- Gurugram, 30 cars
- Dhaka, 144 cars

### 25kV based projects
- Delhi Ph III, 486 cars
- Navi Mum, 24 cars
- Mum L3, 200 cars
- Chennai Ph II, 250 cars
- Chandigarh, 120 cars
- Puno, 120 cars
- Mum L2, 160 cars
- Delhi Ph IV, 400 cars

*Other than Delhi, more than 1700 cars to be bought in next 5 years!!*
Indian Railways an Ever-Growing Sector

- Single largest railway network under one management in the world comprising 115,000 km of track over a route of 65,000 km & 7,500 stations

- Indian Railways have over 229,381 Freight Wagons, 59,713 Passenger Coaches and 9,213 Locomotives

- Indian Railway is currently procuring around 2500 coaches/yr. (trough floor SS)

- Nearly 750 Stainless Steel coaches added last year (LHB Design)

- 60 : 40 Ratio of 409 type and 304/301 type grades
SHELL EXTERIOR

- Roof
- End Wall
- Side Wall
- Underframe
New Dedicated Freight Corridor Coming Up - 3,300 km

A Very Big opportunity for St St Wagons
Delhi-Mumbai & Punjab-Kolkata Corridors

Under the Eleventh Five Year Plan of India (2007–2012), Ministry of Railways is constructing a new Dedicated Freight Corridor (DFC) covering about 3300 km total of two long land mass routes

The Western corridor ~ 1499 km

The Eastern Dedicated Freight Corridor ~ 1839 km long

The total current use of Stainless Steel in wagons annually is almost **122,000 tons in 2012**

24000 to 25000 wagons every year in future

Project is expected to be completed by the end of 2016-2017
Conclusion

- Across a range of metrics and evidence SSDA’s are effective vehicles for positive stainless steel messages, change and putting steel in the market.
- ISSDA is a great asset and a shining example - congratulations on 25 years!
- I look forward to engagement with ISSDA in the years to come