

SMART Benchmarks!

SMART Benchmarking Working Group Update 2017

May 1, 2017

2017 CIM Montreal



SMART

Surface Mining Association
For Research & Technology

Production Shovels & Excavators

SMART Performance Benchmarks, 2003-2017

Equipment Fleet	SMART Benchmarking Company Participants									
	1	2	3	4	5	6	7	8	9	10
BE 295							■			
BE 395						■				
BE 495	■	■	■	■	■	■	■	■		
BE 595		■								
Marion 301		■								
Marion 351		■								
P&H 2300							■			
P&H 2800										■
P&H 4100		■		■	■	■	■	■		■
Cat 375									■	
Demag 455		■								
Demag 485		■					■			
Demag H655SP									■	
Hitachi EX1800										■
Hitachi EX3500				■						
Hitachi EX3600					■					
Hitachi EX5500					■					■
Hitachi EX8000			■							
Hitachi UH501										■
Komatsu PC1800									■	
Komatsu PC8000	■									
O&K RH120								■		
O&K RH200				■		■				
O&K RH400					■	■		■		

New Equipment added

No longer participating

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Continuous Improvement Plan, 2016-2017

- * Audit equipment fleets ✓
 - * add any new equipment fleets & data ✓
- * Audit of normalization of the data
 - * ensure equivalent assignment of time elements
- * Marketing strategy to reach new subscribers
- * Improve User Engagement of SMART Benchmarks!
 - * Addition of listserv and news releases for new data postings



SMART Benchmarks!

System Enhancement Proposal

- * Developed proposal for system enhancements with Golder Associates & SMART Benchmarks! team

Why?

- * *2007 website has seen little change since its inception*
- * *Web-server technology compatibility issues*
 - * *Update website to provide quality user experience on traditional and smart devices including tablets and phones*
- * *Offer enhancements - Phase 1, No New Data Required*
 - * *Expand features, including fleet classification, additional metric(s) and improved data-chart reports*
 - * *Improved user accessibility to data.*

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Next Steps for Subscribers

- 1. Respond to queries from SMART Data Management team - Golder Associates for data audit process*
- 2. Consider path forward on system enhancements*
 - * Decide on Phase 1*
 - * Subscriber call-in meeting to discuss details and feedback, May-June 2017*

New Business

1. GMSG Mining KPI project
2. Develop Phase 2 Enhancements
 - * enhancements that may require subscribers to submit new data elements and for the system to be modified to import and use the new data
3. Promote & Grow SMART Benchmarks!
 - * Low-cost, high-value product with long-standing and new subscribers
 - * Consider other engagement opportunities
 - * Continue to leverage quality technical support from Golder Associates.

2016-2017 SMART Benchmarks! Working Group
welcomes your

Questions & Feedback

Gord Winkel
Tom Demorest
Denise Duncan Logan

gord.winkel@ualberta.ca
Demorest.Tom@syncrude.com
denise.logan@esso.ca

Presentation package only

Additional Slides

2016 Subscriber Fees

The fee schedule starting January 1, 2016 is summarized below:

Fee Item	Amount (\$CAN)
Annual Subscription Fee	\$7,500
Development Fee (for first operation)	\$12,500
Development Fee (for additional operations)	\$10,000
Initial Data Setup Fee (varies based on requirements)	Approx. \$10-\$15k

Note: Fees are subject to change with approval from the SMART organization.



SMART Benchmarking Data Base System Phase 1 Enhancements

Phase 1 Enhancements include changes that can be done without requiring new data elements to be submitted by subscribers.

- * Website Update
- * User Experience Update
- * Technology Update
- * Expanded Features

WEBSITE UPDATE

The 2007 website has seen little change since its inception. Some updates are now indicated:

- * The visual user experience “look and feel” is of the style common in 2006/2007 when the website was created and now looks dated.
- * The web server technology, while still operable, is also dated.
- * Members of the SMART organization have suggested various functional enhancements to the system, which may add value for all users.

USER EXPERIENCE UPDATE

1. Re-design the visual appearance of the website to use modern design approaches such as flat colors schemes and extensive white space.
2. Update the website application layer to a “responsive” website that provides a good user experience on tablets and smart phone size devices in addition to traditional laptop and/or desktop computers.

TECHNOLOGY UPDATE

1. Convert the website to use Microsoft ASP.NET MVC web server technology and client-side JavaScript libraries.
2. Update the HTML produced to be compliant with modern standard browsers *such as Mozilla Firefox, Google Chrome, Apple Safari, and Microsoft IE 10 (and later)*.
3. Convert the website to use HTTPS.

EXPANDED FEATURES Phase 1

1. Equipment classified by drive type

- * Truck fleet: Mechanical or electrical.
- * Shovel fleet: Diesel-hydraulic or Electrical-cable.

2. New metric – Truck Work Factor

- * *Tonnes X km / WOH (Work Operating Hours).*

3. Combined reports

- * Graph and data shown on the same page.

4. Improved User Accessibility to data

- * Login feature will be made more prominent on the public home page.
- * Workflow of the website will be changed so that the selection of report criteria is separated from the display of the reports., e.g. A “tabbed” system

Cost Proposal, Phase 1

Task	Item	Cost (CAD)	Cost by Facility (CAD)
1 ¹	User Experience and Technology Update (all items)	50,000	6,250
2 ²	Truck fleet classification by drive type Shovel fleet classification by drive type	13,000	1,630
3	New metric – truck work factor	6,500	810
4	Combined reports – graph and data	17,000	2,130
Total		86,500	10,810

Note: Table assumes 8 facilities participating



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May 1, 2017 Update to SMART
Membership at CIM 2017

Montreal, BC