



**Dow Centennial Centre
Fort Saskatchewan, Alberta
Oct. 25, 2018**

“Do we send it out? Or repair it in our shop?”

An analysis of today's maintenance strategies

presented by **Mark Tinis**



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“Do we send it out? Or repair it in our shop?”



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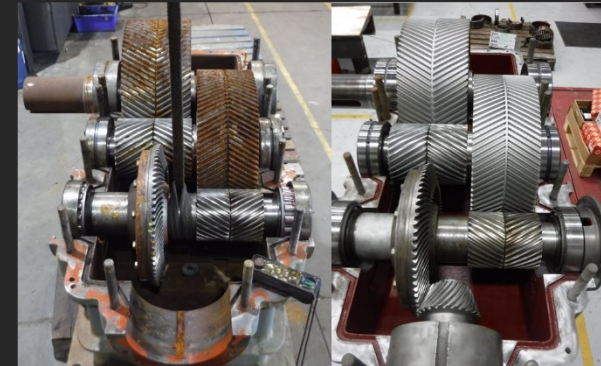
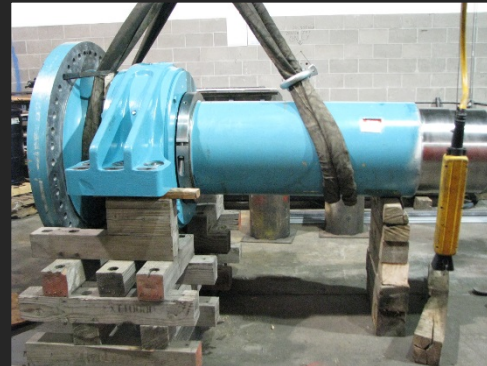


Who am I?

Mark Tinis has been involved in the heavy industrial mechanical sector since 1994. He has held many roles in his career from entry level positions through senior management. His experiences in the shop and the field have given him an extensive understanding of the challenges associated with industrial maintenance and reliability.

Working with varied aspects of the service business, Mark has gained critical insight on how planning, budgeting, and maintenance philosophies can affect the reliability of equipment and the profitability of an operation. As well, his experiences in adapting Lean Manufacturing principles into Lean Shop Service principles has been vital to streamline repair processes, reduce wastes and improve service efficiencies.

Mark manages the flagship Motion Canada service center, Mi TechCan Services in Edmonton, AB. They are a leading industrial service center that provides quality repairs, asset management, design, engineering services and project management to all of the major industrial markets in western Canada.





Housekeeping

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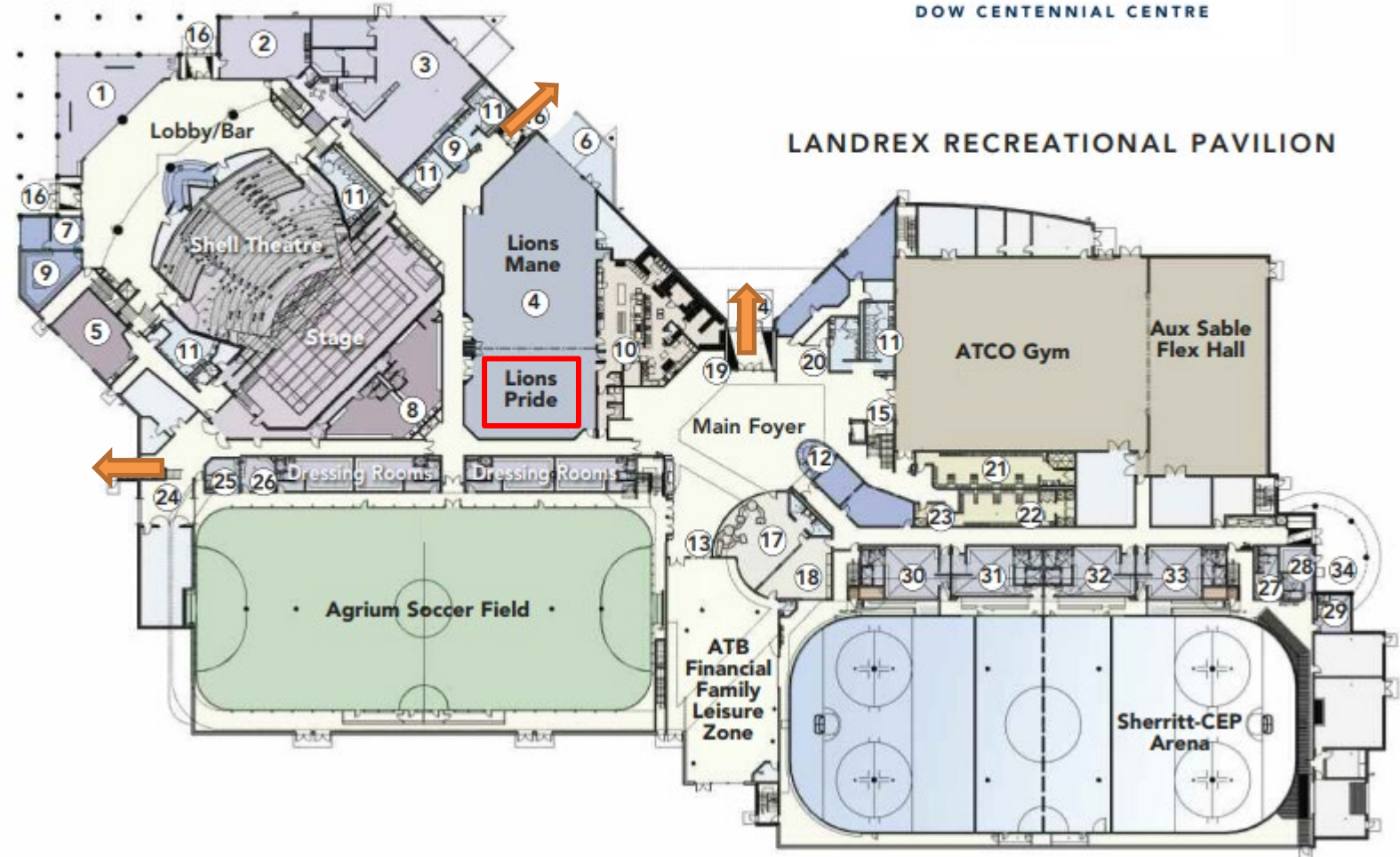
MAIN FLOOR

SHERRITT CULTURAL PAVILION



CITY OF
FORT SASKATCHEWAN
DOW CENTENNIAL CENTRE

LANDREX RECREATIONAL PAVILION





Who are you? What Industry are you from?

Millwright?

Operations?

Planning?

Engineering?

Management?

Contractor?

Consultant?

Specialist?

OEM?

Distributor?

Other?

Alberta industries

Aerospace and defence

Agri-food

Building products and technologies

Engineering and construction

Environmental products and services

Financial services

Information and communication technologies

Life sciences

Industrial manufacturing

Oil and gas

Refining, petrochemicals, and biochemicals

Renewable Energy

Tourism

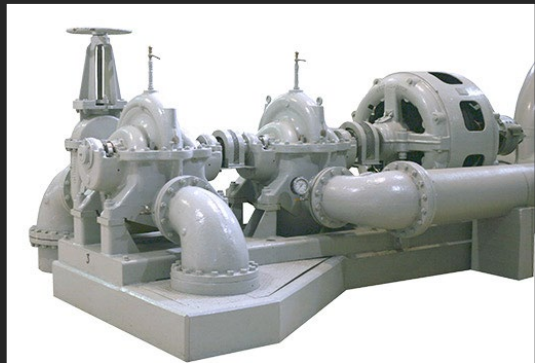
Logistics and market access



Photo from Nova Chemicals Corp.



What is your maintenance strategy?



Reactive Maintenance (RM)

Preventive Maintenance (PM)

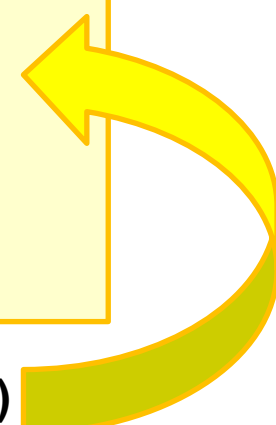
Predictive Maintenance (PdM)

Condition Based Maintenance (CBM)

Reliability Centered Maintenance (RCM)

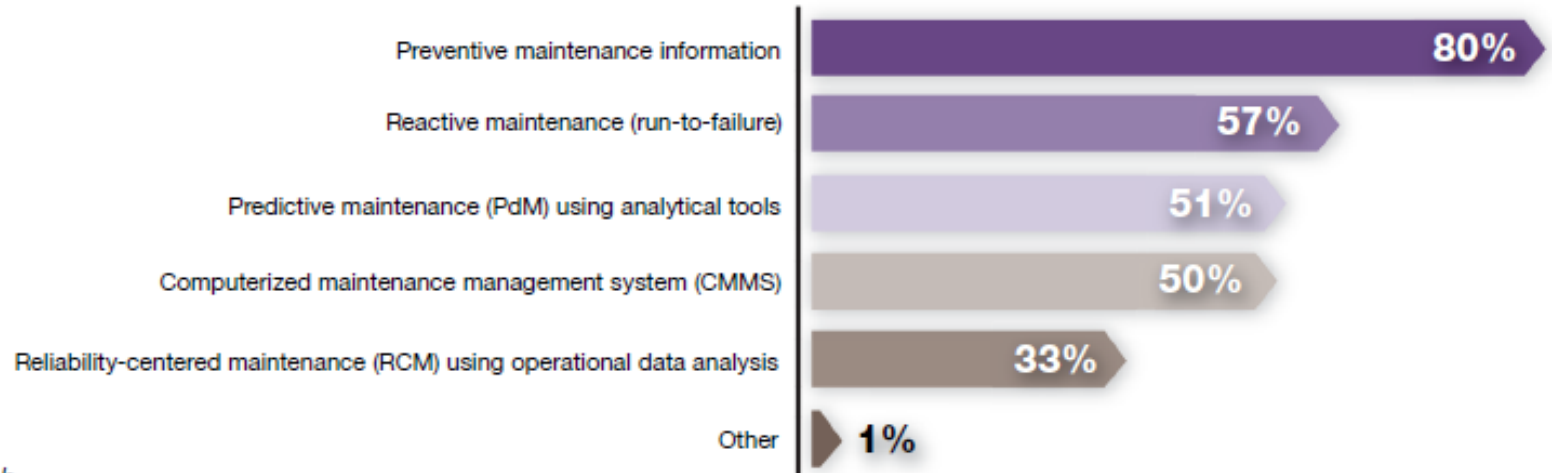
Prescribed Maintenance (PbM) (IloT)

Total Productive Maintenance (TPM)



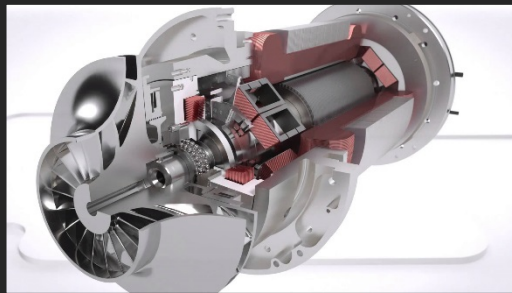
How does that compare to North America?

Which of the following maintenance strategies are present within your plant?



✓ 2018 Maintenance Survey: Playing offense and defense

Top maintenance strategies. Graph courtesy: CFE Media/Advanced Technology Services (ATS)

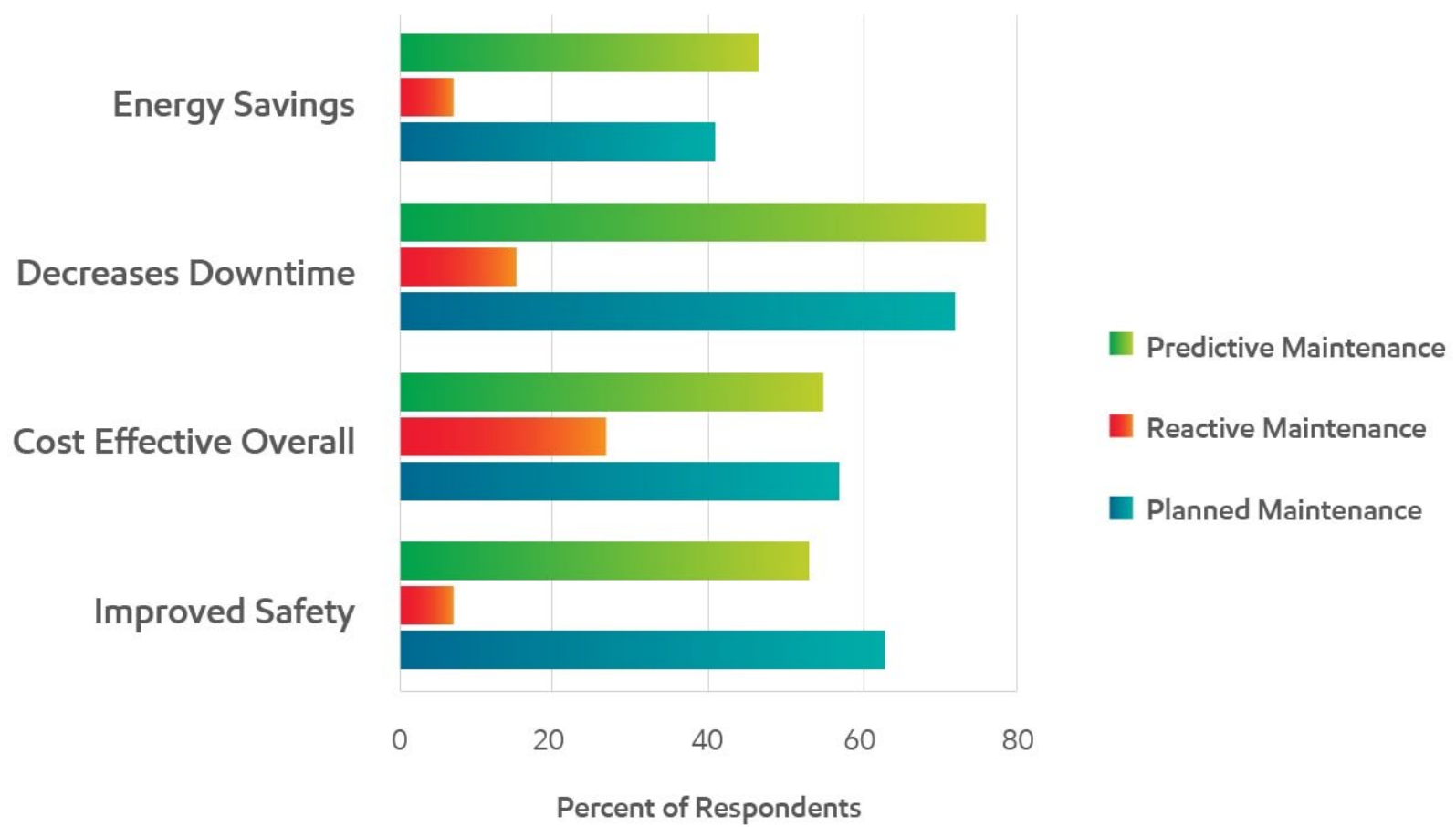


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Maintenance Strategies

Advantages of Maintenance Strategies



Each year, Plant Engineering – an industrial manufacturing outlet – surveys a number of engineers and maintenance professionals to get a sense of overall maintenance strategies in the United States.



We have to rebuild it. Where should the work take place?

In our Shop!

Advantages:

- Staff gain a greater understanding of the equipment by working on it. There is no better training, than hands on;
- Plant staff understand the application and the equipment's role in the process;
- Staff have full access to equipment history & system operational data

Dis-advantages:

- Busy with other priorities in the plant: PM's, planning, planned outages, unplanned outages, etc.;
- May not have specific tooling;
- May not have specs and tolerances;
- May not have the space in the shop;
- Is it clean enough? Plant contamination can be a problem.;
- No warranty



We have to rebuild it. Where should the work take place?

Send it to the OEM!

Advantages:

- Own the design information & engineering specifications;
- Supply OEM parts;
- Has OEM upgrade history;
- OEM Warranty.

Dis-advantages:

- Likely heavily biased towards their products;
- Likely will be very protective of intellectual property (IP);
- Will not have application info or operational data unless the owner shares it.
- Schedule. Not always able to “rush” the repairs.



We have to rebuild it. Where should the work take place?

Send it to our Local Repair Shop!

Advantages:

- Can offer multiple repair or replacement options. Unbiased;
- May be an OEM certified repair center;
- May be a subject matter expert because they repair the same equipment for other customers in your industry and other industries;
- Can supply all inspection and assembly dimensions;
- Will compare findings to industry standards (ISO, DIN AGMA, API, etc.);
- Warranty

Dis-advantages:

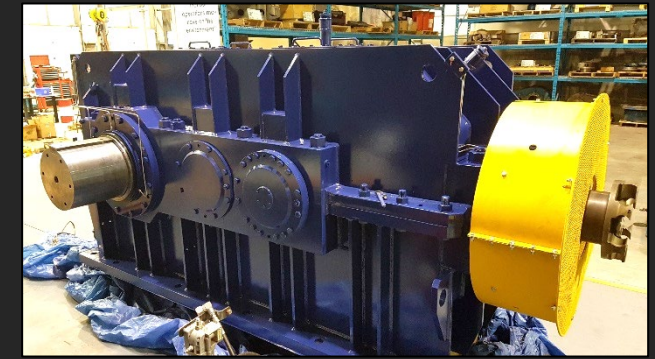
- May not have access to OEM parts or specifications;
- May have experience in a lot of different equipment, but maybe not this one;
- Will not have application info or operational data unless the owner shares it.



*We have to rebuild it.
Where should the work take place?*

*What other factors
are there?*

Discussion



So, how do you decide?

Base your decision on these factors:

Timing

If you have the time, space and resources to perform the repair in your shop, do it.

If you don't have the tooling, specifications or expertise, lean on your knowledge network for support.

Financial Impact

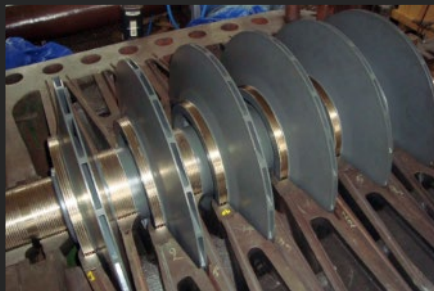
The repair cost is not the largest factor here; un-panned downtime is much more costly!

Complete the repair where you have the best chance of getting as much life out of the equipment!

Criticality

If your time is better spent completing other work in the plant, send it out. External resources can often manage resources easier than plants can.

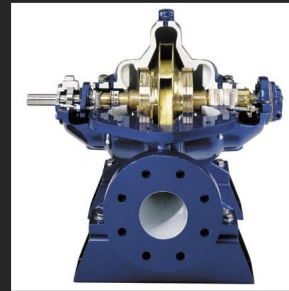
Just make sure you do your homework to ensure the work is done right, the first time!



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In Conclusion

Questions?



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Thank you for participating in the 2018 RATS MRO Technical Conference

- Please fill in **feedback form** to help us plan for 2020
- All presentations will be available for **download from MRO website**
- A portion of the MRO proceeds will go towards an **Educational Grant** and our selected charities:



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