



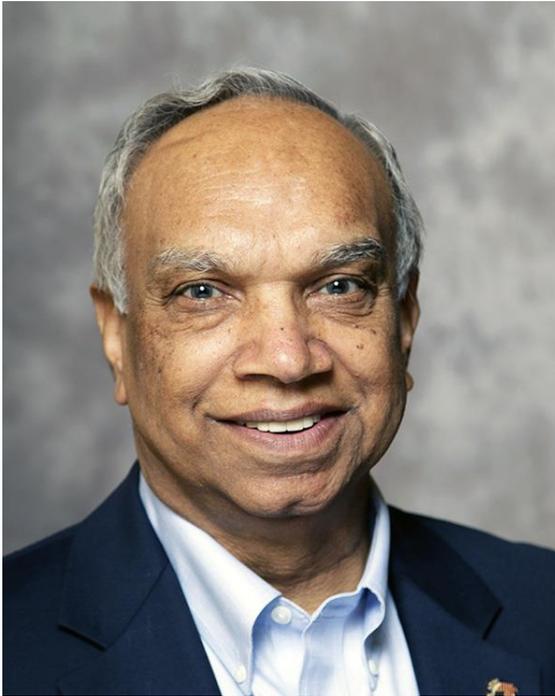
FLUKE®

Reliability

**Lessons from the pandemic
to help maintenance and
reliability pros be more
effective**

Ramesh Gulati

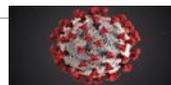
Accelix™
Webinar Series



Ramesh Gulati

*Asset Management and Reliability Specialist,
Jacobs Asset Management Group, Tullahoma, TN*

- World-renowned leader in the maintenance, reliability, and asset management field
- Author of several books, including the award-winning *Maintenance & Reliability Best Practices*, *Uptime Elements DICTIONARY*, and *10 Rights of Asset Management*.
- Active member of AMP, ASQ/Reliability, IIE, IAM, SMRP, UT/RMC, ISO/ANSI-TC251 (ISO 55000 US TAG)
- Certified Reliability Professional/Leader: CRL, CMRP, CMRT, CAMA
- Known as "**Reliability Sherpa**" in reliability-asset management arena



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- Asset Management Group
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 - plus

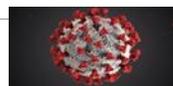


POLL QUESTION No. 1



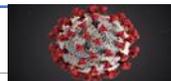
How important is it to provide or use the right tools or instruments for the task at hand? **(Click only one answer)**

- Very important
- Somewhat important
- It's OK to use what you have
- Not that important

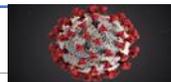


Outline: Impact of COVID-19 pandemic on AM-MR professionals

- Current situation
 - Pandemic is causing havoc around the world
 - PPE is on everyone's mind and we've learned its importance
- Impact on:
 - People – stressed, facing “quarantine fatigue”
 - Trying to stay healthy
 - Environment
 - Businesses
- Lessons learned
- Challenges ahead
 - Getting work done safely... still following guidelines
 - Adopting to new norm, learning new habits
- Takeaways / summary



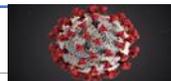
Safety moment



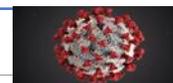
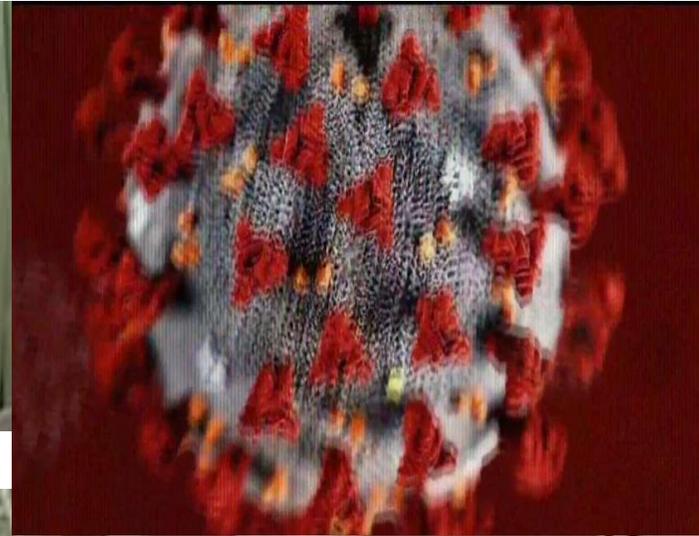
Wearing PPE: Be a role model



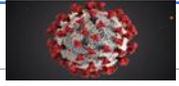
Mayo Clinic has a current policy to wear a mask



Impact of COVID-19 (1)

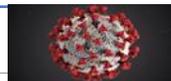


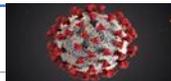
Impact of COVID-19 (2)



Impact of COVID-19 (3)

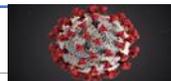
- Almost every country must deal with it
 - Poor, rich, small, big.... Nobody is spared
 - No bias
- Whole world is in lockdown, some countries are beginning to open up
 - Medical expert – SME cautioning us “Don’t hurry”
 - Grim statistics
 - Worldwide: 4.1 million+ infected, over 280K die
 - USA: more than 1.5 million infected, 80K+ die
 - No sign that “Coronavirus War” is over





Current environment (1)

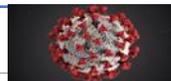
- Many of us ...
 - Working from home (telecommuting)
 - Some are at sites (plants) to support clients
 - Some are on PTO (personal time off)
 - Many got furloughed or let go
- When not working, we're still checking the news
 - Glued to TV and/or radio to learn what's going on
 - Trying to learn how to stay SAFE



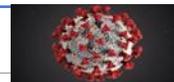
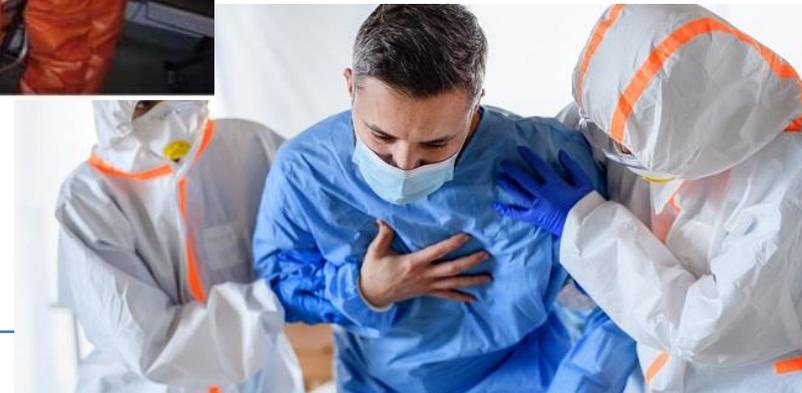
Current environment (2)

- What we have been HEARING a lot for the last 8-10 weeks?
- Three words:

PPE



PPE for front-line workers to keep them safe

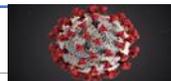


Importance of PPE

- One important lessons we have learned from the coronavirus
 - Value of PPE
 - Having the right PPE and wearing it properly

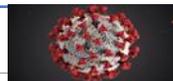
(At Gemba, we all have challenges in ensuring that we - all of us wear appropriate PPE as needed for the task at hand)

Gemba = A Japanese word for the workplace where VALUE is created



People – us

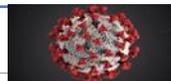
- Most of us:
 - Scared,
 - Frustrated
 - Sort of “prisoned” at home with family
 - Quarantine fatigue
- On positive side
 - Opportunity to have quality time with the family
 - Enhancing family value and health
 - Maybe eating better food (less junk food)?
 - Working out at home
 - (Yes, some of us... Having challenges in adjusting this)



Business impact

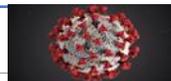
- Many businesses, including plant / factories, “locked down”
 - Except “essential” businesses
 - Causing hardship to all, especially to small businesses
- Some areas/states are starting to open up
 - Conflicting views
 - Many politicians want to reopen quickly to bring economy back
 - Healthcare SMEs are cautioning restraint

Challenges in balancing public health and the economy



Environmental impact

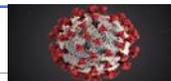
- Currently Very minimum travel (essential only)
 - Transportation system almost closed down
 - Many offices – and plants/factories – are closed
- Lockdown & stay home orders have resulted in
 - Less pollution – (30-50 % reduction in some areas/cities)
 - Air and water
 - Result: **CLEAR skies** and **CLEAN water** – rivers
 - You can see things ...
 - Stars in the sky; mountains miles, miles away; clear water in the rivers-lakes, etc.



Lessons learned, and returning to work



After weeks of shutdown, the nation is beginning to slowly and cautiously re-emerge.



POLL QUESTION No. 2

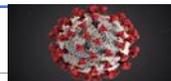


How are you feeling about going back to the workplace (if you have been away)? **(Click only one answer)**

- I never left; have continued to work at the plant through this
- Not worried at all
- Somewhat worried
- Nervous and concerned about it

Lessons learned (2)

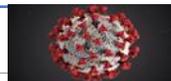
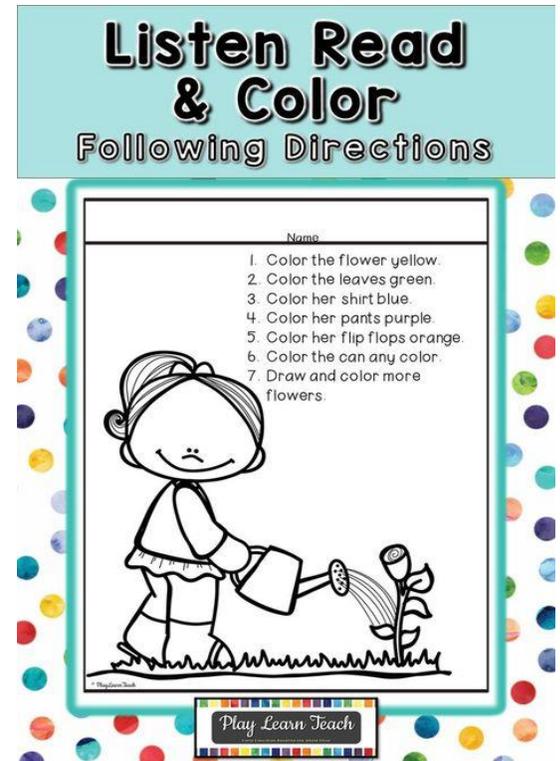
1. Importance of PPE
 - Wearing appropriate PPE for the job/task at hand
 - No excuses ... We all need to become role models, especially leaders and managers



Lessons learned (3)

2. Follow “Guidelines / Procedures”
 - Develop procedures based on facts – i.e., FMEA, SME, experience
 - Try to make them simple, easy to understand – use pictures, videos etc..
 - Avoid ... Be cautious about fake news (do what data – tools/instruments are telling us)

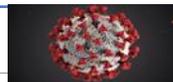
SME = Subject Matter Expert



Lessons learned (4)

3. We can make environment CLEAN & SAFE

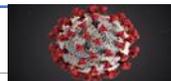
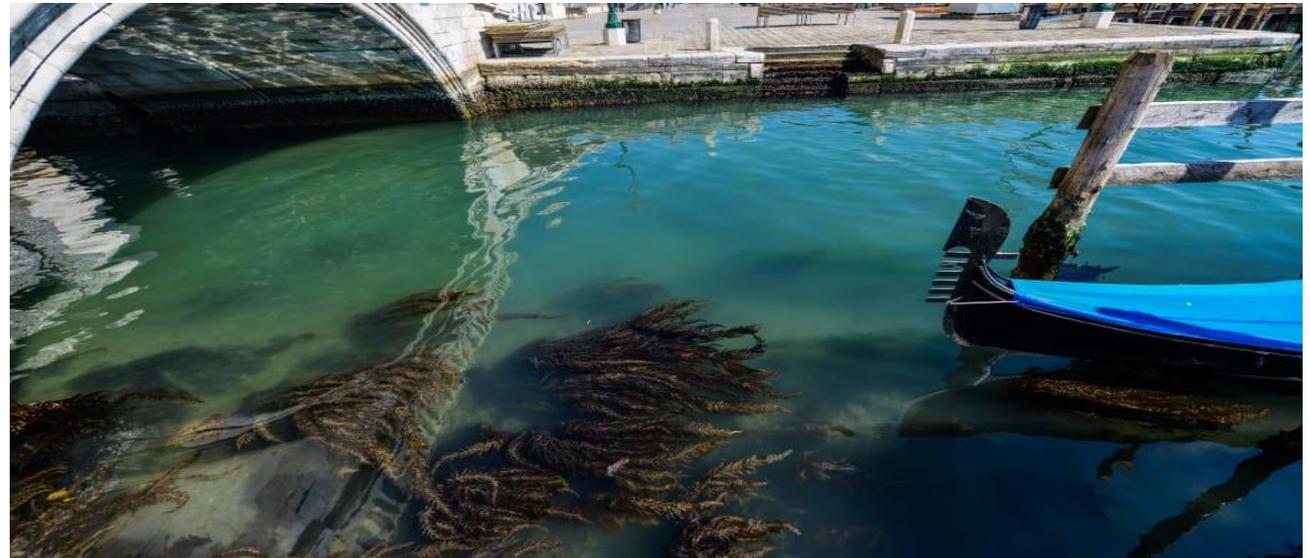
- Let us play our part in sustaining the environment, making earth live again
- Buy – use environment safe/sustainable and energy efficient products at workplace and home
- Cities have seen 30-50% reduction in air pollution
 - Wonderful to see clear skies and clean water in rivers and seas



Lessons learned (5)



A view shows seaweed in clear waters in Venice on March 18, 2020, as a result of the stoppage of motorboat traffic, following the country's lockdown within the new coronavirus crisis. ---
Andrea Pattaro | Getty Images

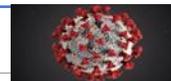


Lessons learned (6)

4. Balance work and family life

- Enhance family relationships
- Develop safe and hygienic habits
- Stay healthy

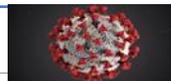
5. Learn and adopt new habits. This will be new NORMAL for a long time.



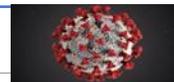
Getting ready to go back to workplace (Gemba)

Remember....

- There are going to be CHANGES....
- NEW normal



New norm new learning ... new challenges



New norm: temperature checked upon arrival

- *An employee's temperature is checked at a Pepsi-Cola Bottling Co. of New York facility.*

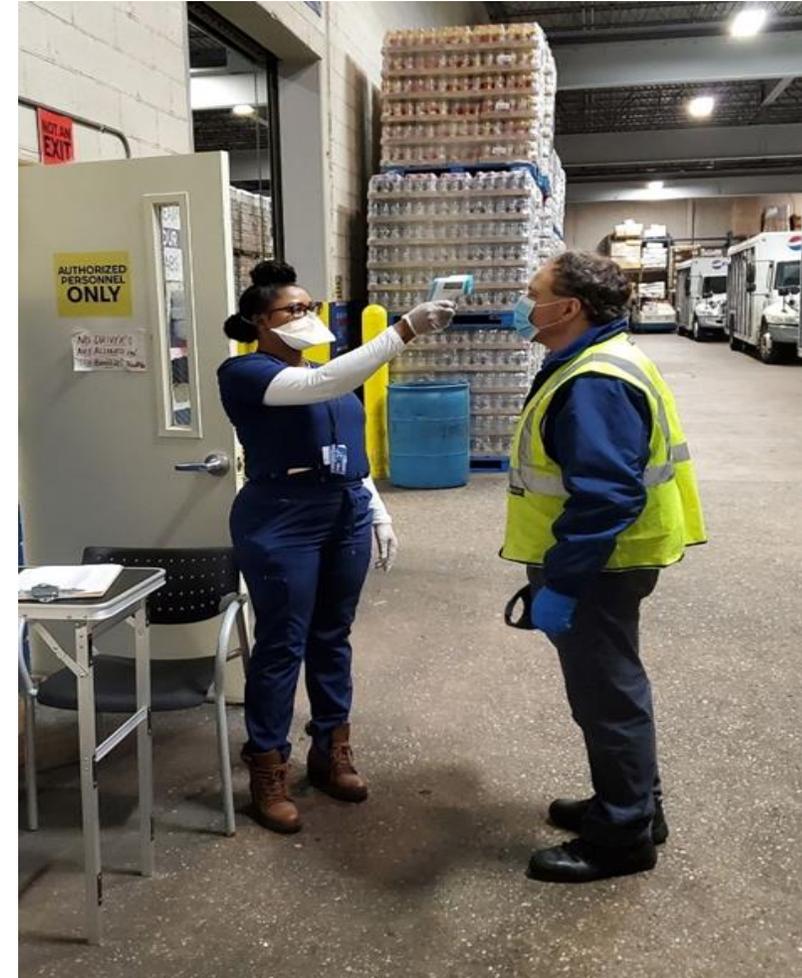
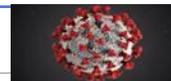
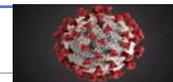


PHOTO: PEPSI-COLA BOTTLING COMPANY

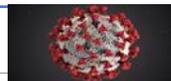


Screening before entering the office



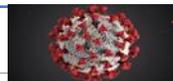
■ Examples of changes at workplace (Gemba)

- “We don’t have to put people in space suits, but we have to do more than hand sanitizers,” said Ford Motor Co. CEO Jim Hackett. “We’ve got to get that part really right.”
 - Employees maybe wearing digital band to alert them if they get closer to six feet to other person
- **Temperature checkpoints** and **employee-health screenings** will become commonplace at most business locations.
- Factory workers **wear masks and rubber gloves** during shifts, and companies have **closed down break rooms and smoking areas** to prevent employees from congregating in one spot.



VW factory/plant plan for reopening

- Volkswagen AG has rolled out a list of 100 workplace changes it plans for building cars as it begins reopening its European factories this week and plants in other countries, including the U.S., after April 27.
- Among them, workers **will no longer pass materials to each other by hand**, setting them down instead.
- Employees will **line up single-file to enter factory gates**, keeping a 6-foot distance.
- The overhaul is so exhaustive, union officials have said, staff will have to take extra time to absorb the new rules.



New norm for VW factory/plant plan



On Arrival at gate: Worker takes temperature and goes over COVID-19 symptoms checklist.



At factory gate, worker gets in line, maintaining social distancing, and proceeds through the turnstile, pushing it open with arms as recommended by VW



Before leaving a workstation for breaks or going home, workers disinfect their tools, hand-held scanners (similar to those used in supermarkets to scan barcodes) and tablets



Arriving at home, workers must wash and disinfect hands, remove work clothes and wash them.



Worker puts on VW coveralls and work shoes.



At the entrance to the factory hall, disinfectant dispensers have been put up and workers can sanitize their hands.



Workers will be asked to take lunch and other breaks in glassed-off team rooms to the side of the assembly line. They'll have to stagger these breaks to maintain social distancing while in the rooms.



Instead of car-pooling, worker drives own car to work or takes public transportation, being sure to observe social-distancing of 6 feet between next person.

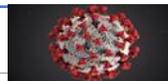


Workers place material (pallets or small boxes of parts) at a pickup point marked on the floor, and other workers come and pick it up. There is no contact between the two employees



Disinfectant dispensers will be placed throughout the shop. For example, prominently on the wall to the side of the door going into the washrooms.

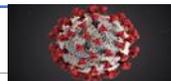
Source: VW company - Alberto Cervantes/The Wall Street Journal



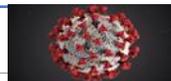
VW's plan post-pandemic

1. Worker takes temperature and goes over COVID-19 symptoms checklist.
2. Worker puts on VW coveralls and work shoes.
3. Instead of car-pooling, worker drives own car to work or takes public transportation, being sure to observe social-distancing of 6 feet between next person.
5. At the entrance to factory hall, disinfectant dispensers have been put up to sanitize hands.
6. Workers place material (pallets or small boxes of parts) at a pickup point marked on the floor, and other workers come and pick it up. There is no contact between the two employees.
4. At factory gate, worker gets in line, maintaining social distancing, and proceeds through the turnstile, pushing it open with arms as recommended by VW.
7. Before leaving a workstation for breaks or going home, workers disinfect their tools, hand-held scanners (similar to those used in supermarkets to scan barcodes) and tablets.
8. Workers will be asked to take lunch and breaks in glassed-off team rooms to the side of the assembly line. They'll stagger these breaks to maintain social distancing while in the rooms.
9. Disinfectant dispensers will be placed throughout the shop. For example, prominently on the wall to the side of the door going into the washrooms.
10. Arriving at home, workers must wash and disinfect hands, remove work clothes and wash.

Source: VW and Alberto Cervantes/The Wall Street Journal



“We must implement new ways of doing business. That might mean using technology and flying less for business meetings to asking consumers to buy less (*yes, you read that right*).”



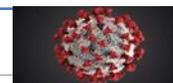
New office setup



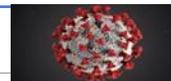
Cushman & Wakefield offices in Amsterdam display a new design concept called 'Six-Foot Office.'
PHOTO: CUSHMAN & WAKEFIELD

Amol Sarva, chief executive of the flexible-office company Knotel, said he plans to add features to the company's app for office tenants that would give employers the option to track some employee movements and trace their contacts to prevent the spread of illness.

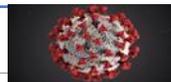
"Security changed forever after 9/11, and it's going to happen to the workplace now," Mr. Sarva said.



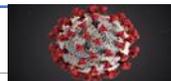
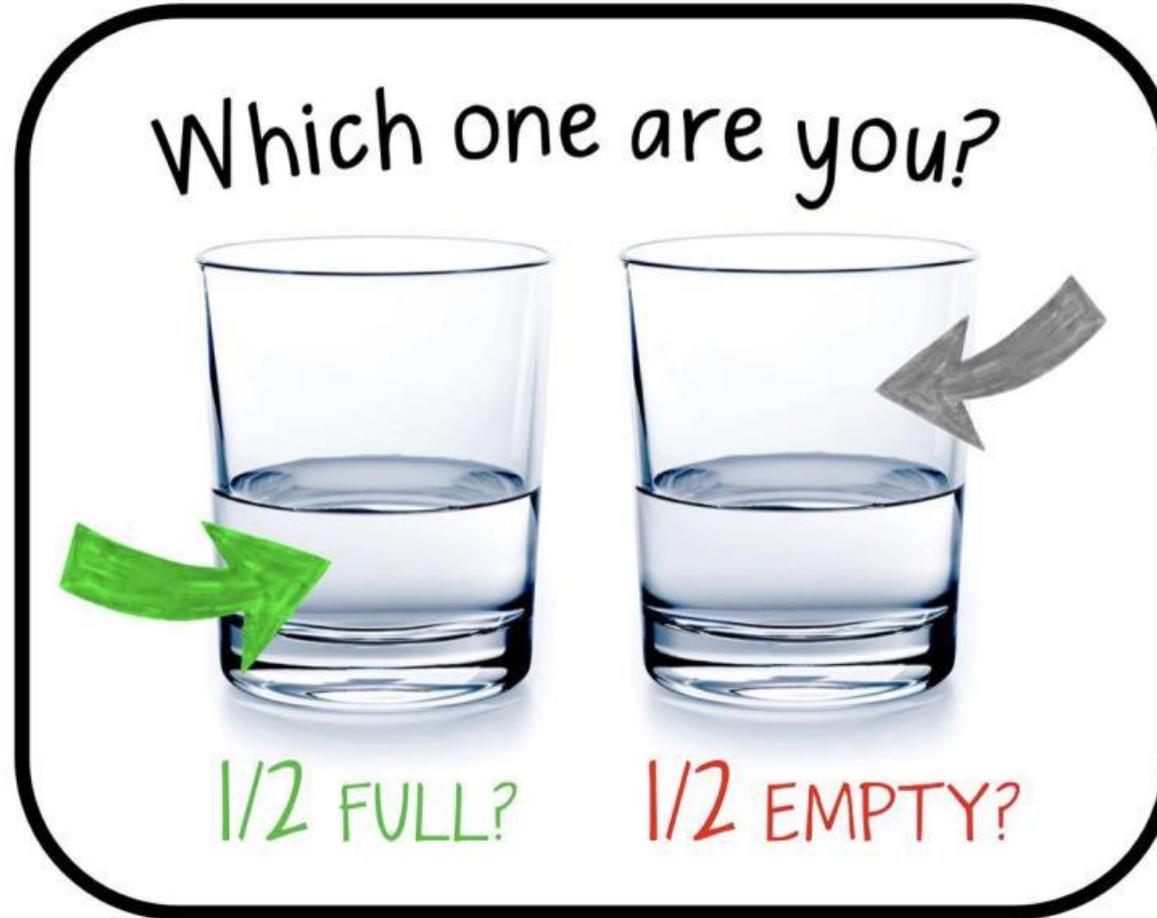
New norm for schools



KG School



Optimistic or pessimistic?



POLL QUESTION No. 3

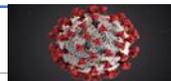


Has your appreciation for maintenance – reliability management technologies increased with the pandemic? **(Click only one answer)**

- Yes, I'm considering how to increase digitalization – IoT, smart sensors, etc.
- Somewhat; I may seek to add/increase technology budget a bit
- Not really. We are good with what we have
- No change. We're technology-savvy right now and no need to add anything

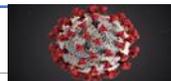
Guidelines for all phases: Employers

- Develop and implement appropriate policies, in accordance with federal, state, and local regulations and guidance, and informed by industry best practices, regarding:
 - Social distancing and protective equipment
 - Temperature checks
 - Testing, isolating, and contact tracing
 - Sanitation
 - Use and disinfection of common and high-traffic areas
 - Business travel
- Monitor workforce for indicative symptoms. Do not allow symptomatic people to physically return to work until cleared by a medical provider.
- Develop and implement policies and procedures for workforce contact tracing following employee COVID+ test.



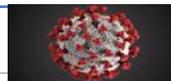
Guidelines for all phases: Individuals

- Develop/implement ways to PRACTICE GOOD HYGIENE
 - Wash your (all employees) hands with soap and water or use hand sanitizer, especially after touching frequently used items or surfaces.
 - Avoid touching your face.
 - Sneeze or cough into a tissue, or the inside of your elbow.
 - Disinfect frequently used items and surfaces as much as possible.
 - Strongly consider using face coverings while in public, and particularly when using mass transit.
- Expect and prepare you/your employee WHO FEEL SICK to STAY HOME
 - Do not go to work or school.
 - Contact and follow the advice of your medical provider.



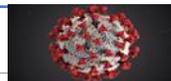
Accept the Change

- Change is here.... New Normal
- Let us accept this CHANGE ... think how can we make it better
- Implementing change is not EASY.... It will be challenging
- Make a plan...



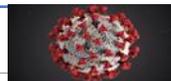
Conclusions – takeaways (1)

- Be ready: Have a plan ready for “unexpected” catastrophic events – disasters just like the COVID-19 pandemic.
- Ensure we have right PPE available to everyone who needs it based on job/tasks.
- Evaluate work environment and adjust/modify to meet new requirements – social distancing, etc.
 - Expand use of automation, AI, digitalization, and robots to minimize human intervention.
 - Think how are we going to make our technicians (low techy) to knowledge workers



Conclusions – takeaways (2)

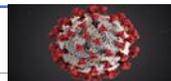
- Self study and online mode of learning will be new norm.
 - Continuous learning is important, but the majority of it must be done at work/home. F2F meetings, conference, seminars might be very minimal in the near future.
- Learn to adopt new environment – new habits to do the work efficiently and safely without rubbing shoulders with a co-worker.
 - Use right, efficient and safe tools.
 - Expand use of wireless sensors/IoT tools to minimize human intervention to make adjustments on assets and to collect data.



Conclusions – takeaways (3)

- Final word...
 - Keep yourself, your family, your people (employees) healthy, safe, and productive
 - Infection surge still a threat
 - Obey safe practices
 - Wash hands, use gloves as necessary
 - Wear appropriate PPE
 - Social distancing – 6 feet apart
 - Use the right and most appropriate tools

Try to make these habits part of the new NORM



QUESTIONS?

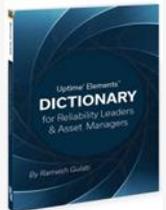
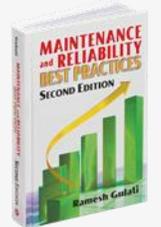


Thank you!

Ramesh Gulati

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Asset Management and Reliability Specialist,
Jacobs Asset Management Group



Next webinar June 3: Learn more about Adaptive Alignment

BEST PRACTICE WEBINAR

Wednesday, June 3, 11 a.m. ET

Adaptive alignment: the next generation in laser shaft alignment systems

What if laser alignment systems could automatically adapt to different assets, simple-to-complex alignment challenges, and any user's skills and experience?

In this webinar, Jonathan Gough, Fluke Reliability Product Manager for PRUFTECHNIK, explains what adaptive alignment means, how it can address the problems occurring with today's machines, and how it can work for your organization.



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