

Improvise! Adapt! Overcome!

Runar Asly –
R&D Manager ISEC Monitoring Systems



“Imagine where we had been if Henry Ford had only listened to his customer’s needs?!”



“Looking back is the best way to predict future”



1996:

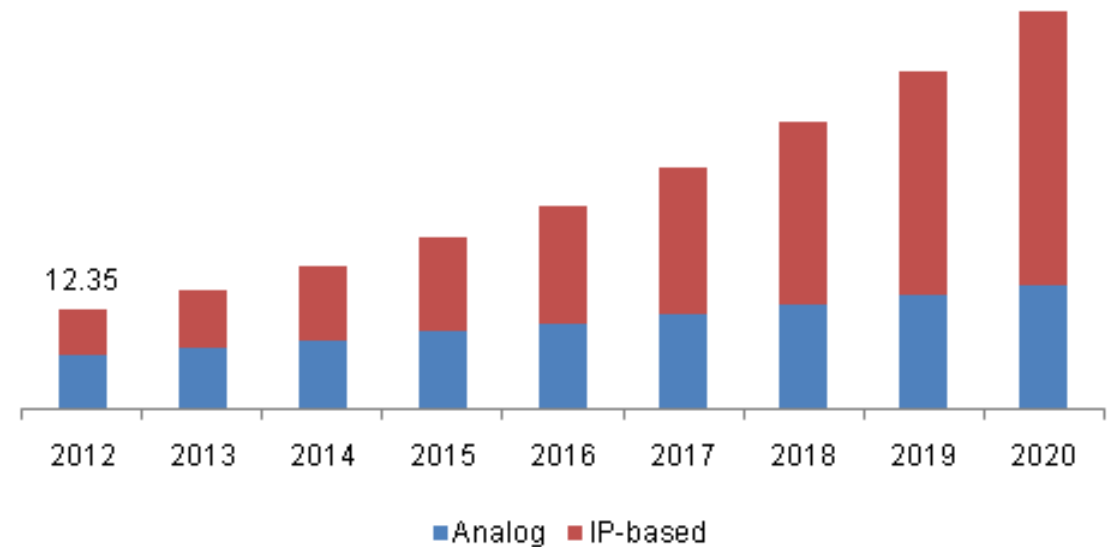
First IP video camera - Axis NetEye 200

1 Fps in CIF (352x240 pix)

1 Frame per 17 sec in 4 CIF (704x480)

Development of surveillance for the past 10 years:

- IP's share is increasing
- PoE – “Smart” Power



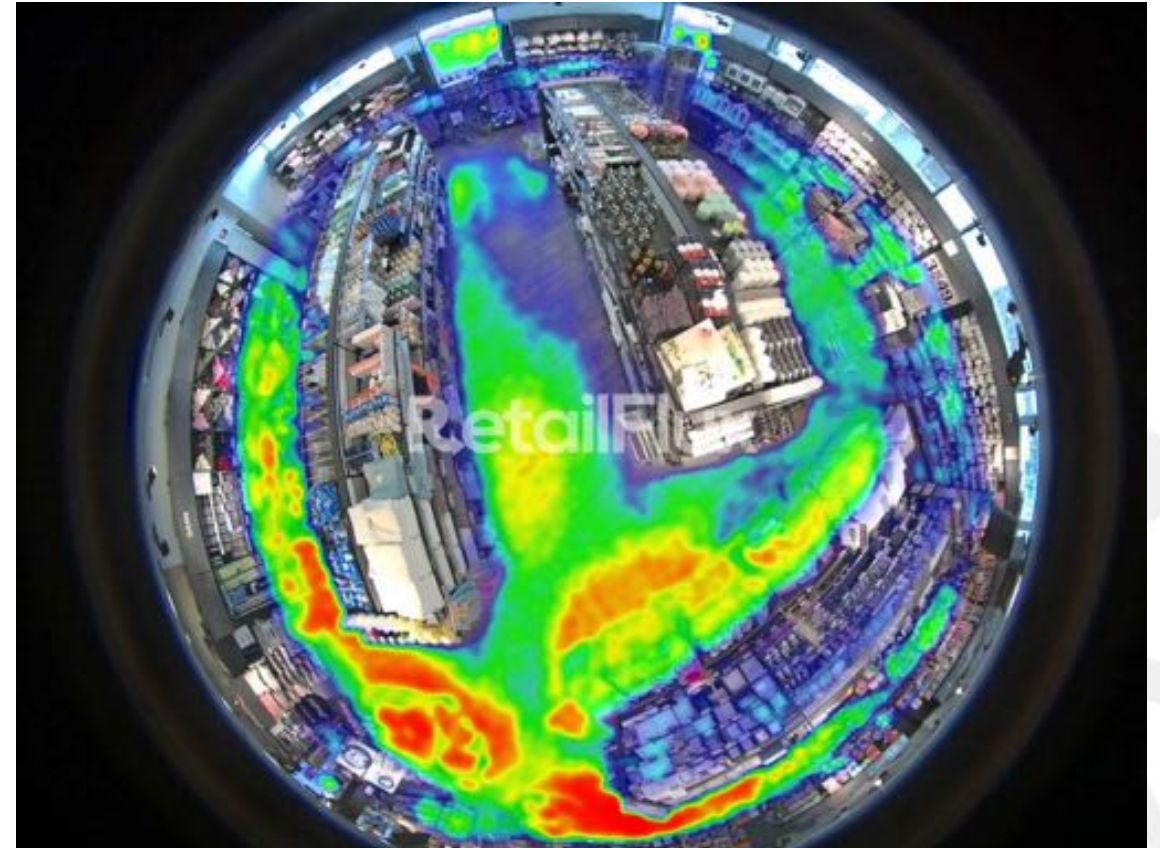
Development of surveillance for the past 10 years:

- IP's share is increasing
- PoE – “Smart” Power
- Image quality - Higher resolution, low light, W/HDR
- Cost reduction, cameras has become commodity



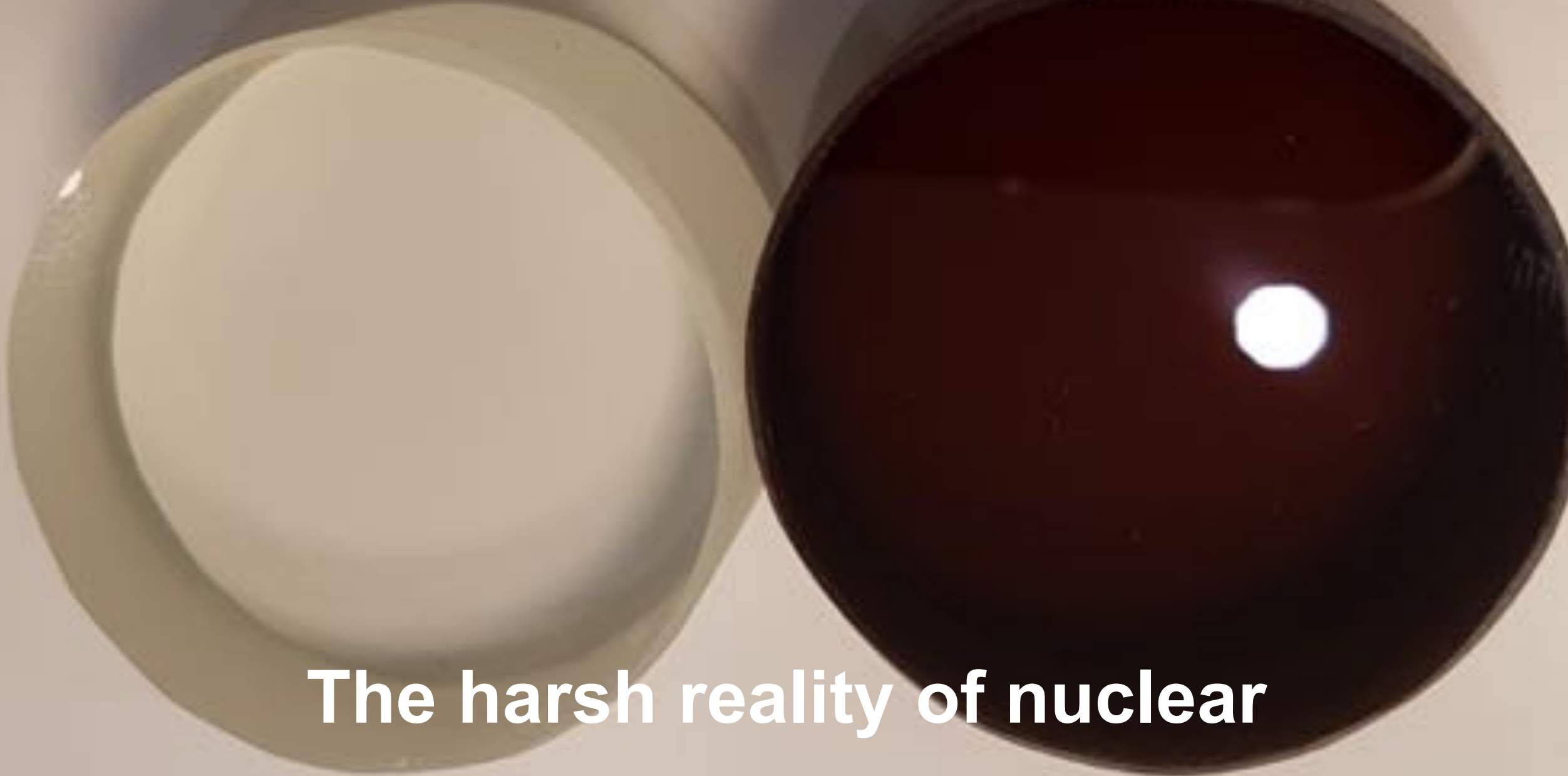
Development of surveillance for the past 10 years:

- IP's share is increasing
- PoE – “Smart” Power
- Image quality - Higher resolution, low light, W/HDR
- Cost reduction, cameras has become commodity
- Intelligent video applications
- Complex system integration



Why are we still analog?!

The harsh reality of nuclear



1970-01-01 00:33:11



1970-01-01 00:39:28



2018-03-01 11:24:10



2018-03-01 12:24:27



2018-03-01 13:24:45



2018-03-01 14:25:03



2018-03-01 15:25:21



2018-03-01 16:25:38



2018-03-01 17:24:41



2018-03-01 18:24:59



2018-03-01 19:25:16



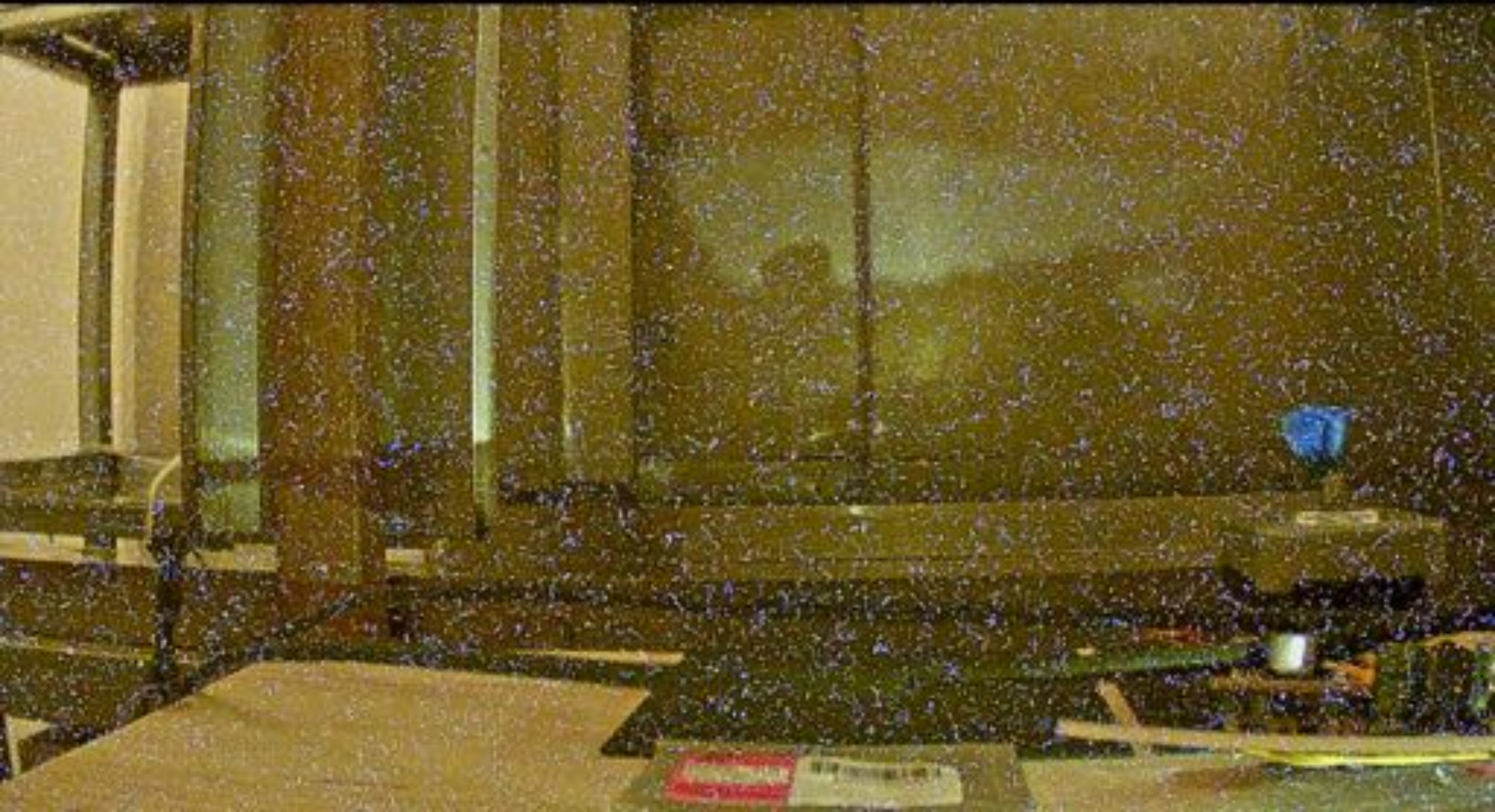
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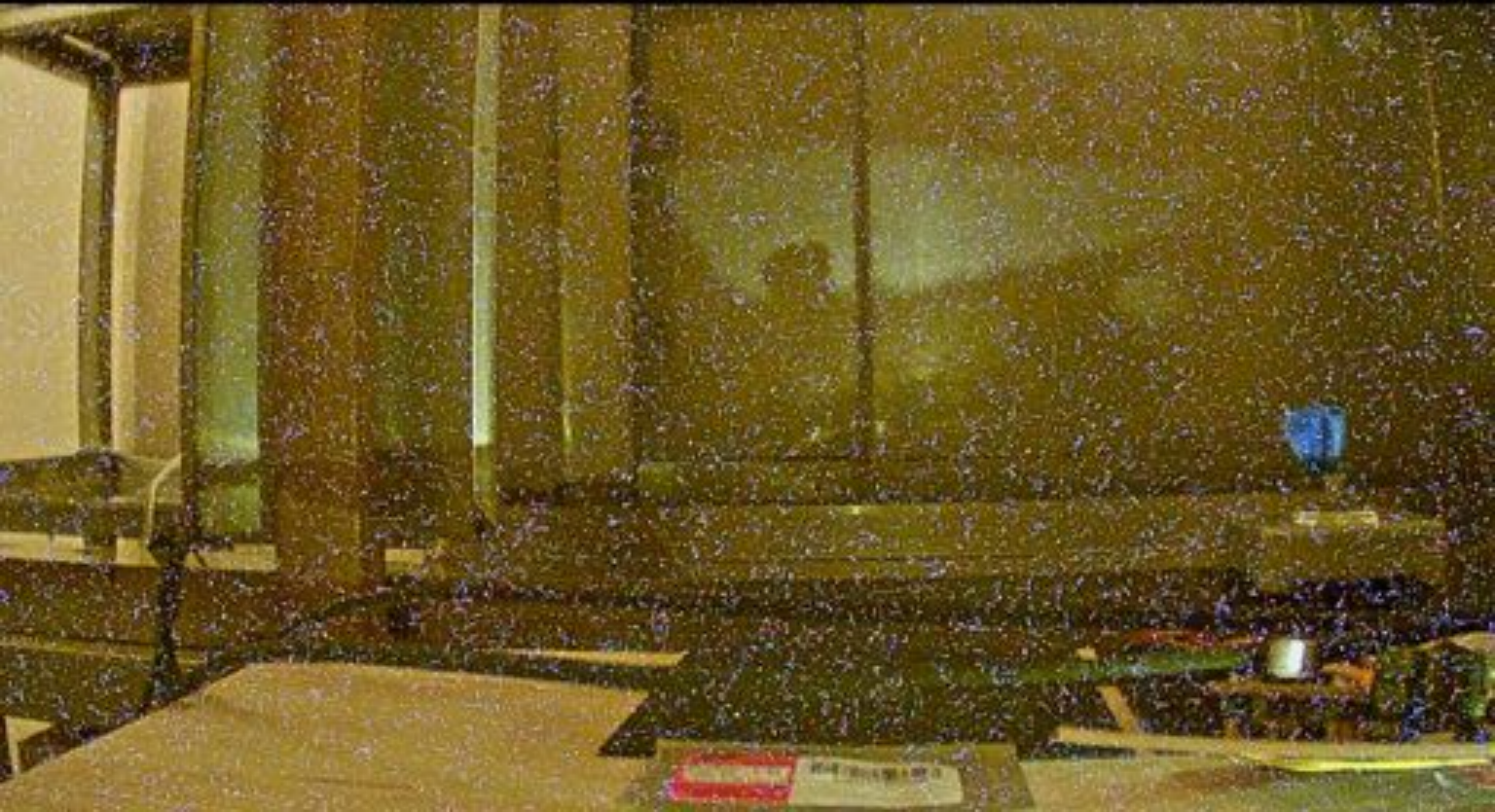
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2018-03-02 00:25:31



2018-03-02 01:24:34



2018-03-02 02:24:51



2018-03-02 03:25:09



2018-03-02 04:24:13



2018-03-02 05:24:33



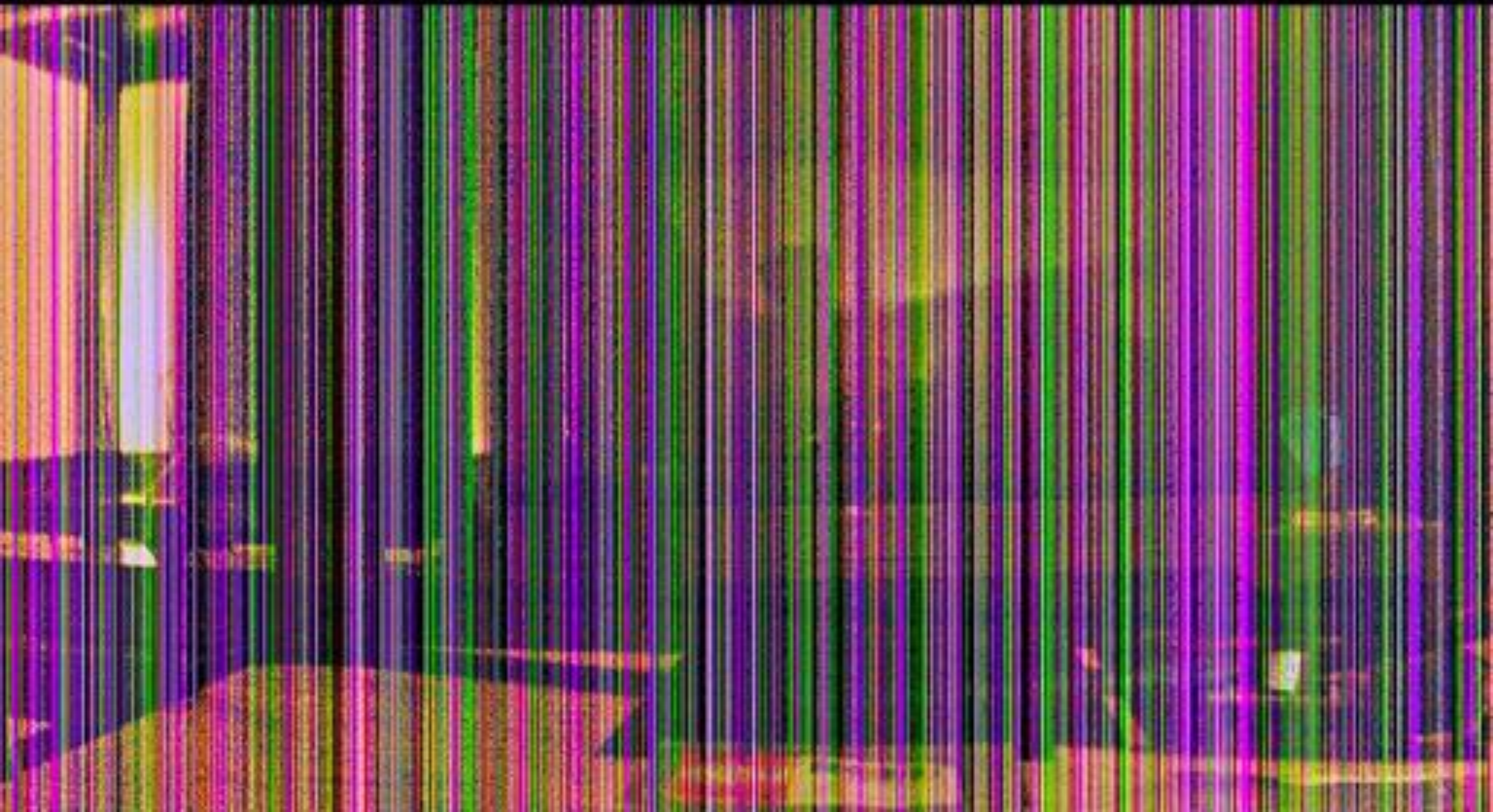
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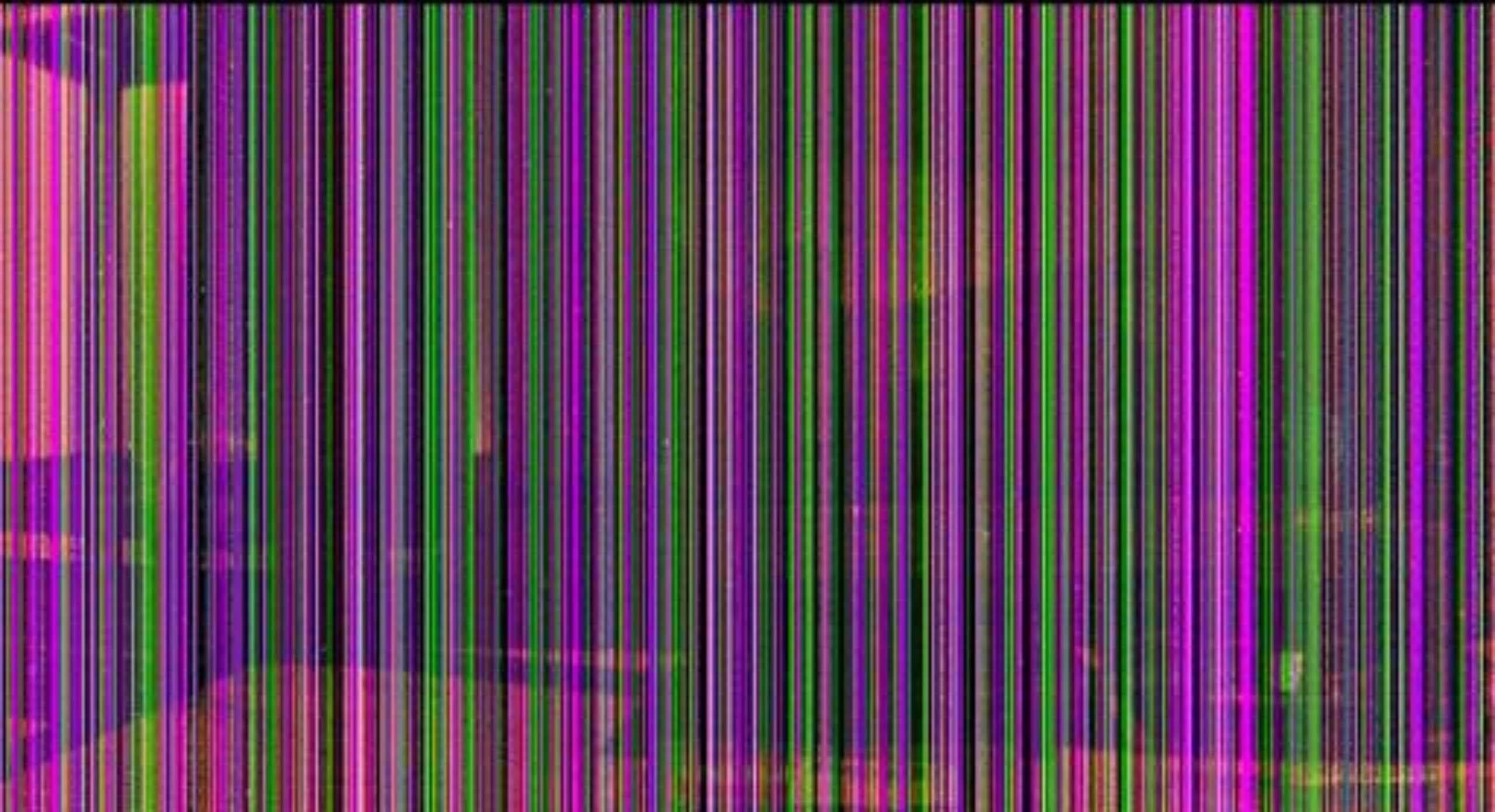
2018-03-02 07:25:11



2018-03-02 08:25:28



2018-03-02 09:24:30



Video source unknown error

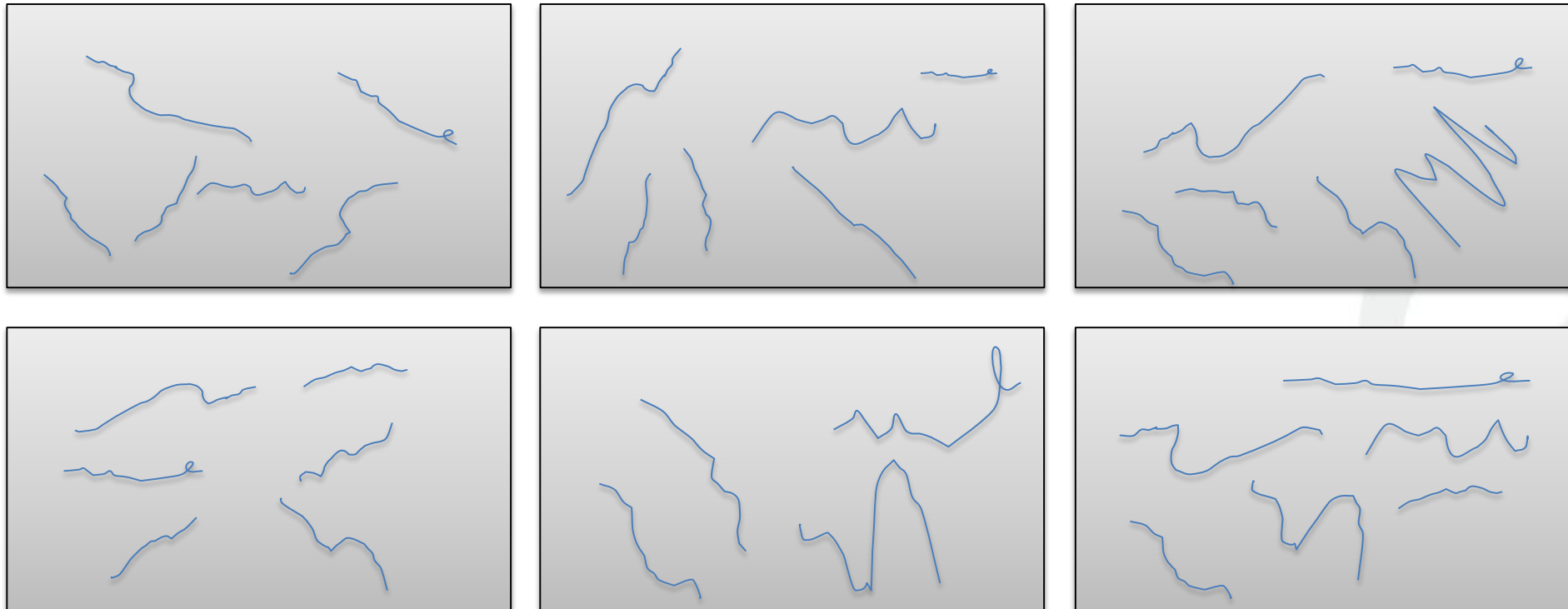
Are there benefits of digital video?

- Resolution. Increased pixel count provides real time opportunities.
- R&D – this is where the mass market is developing new technology.



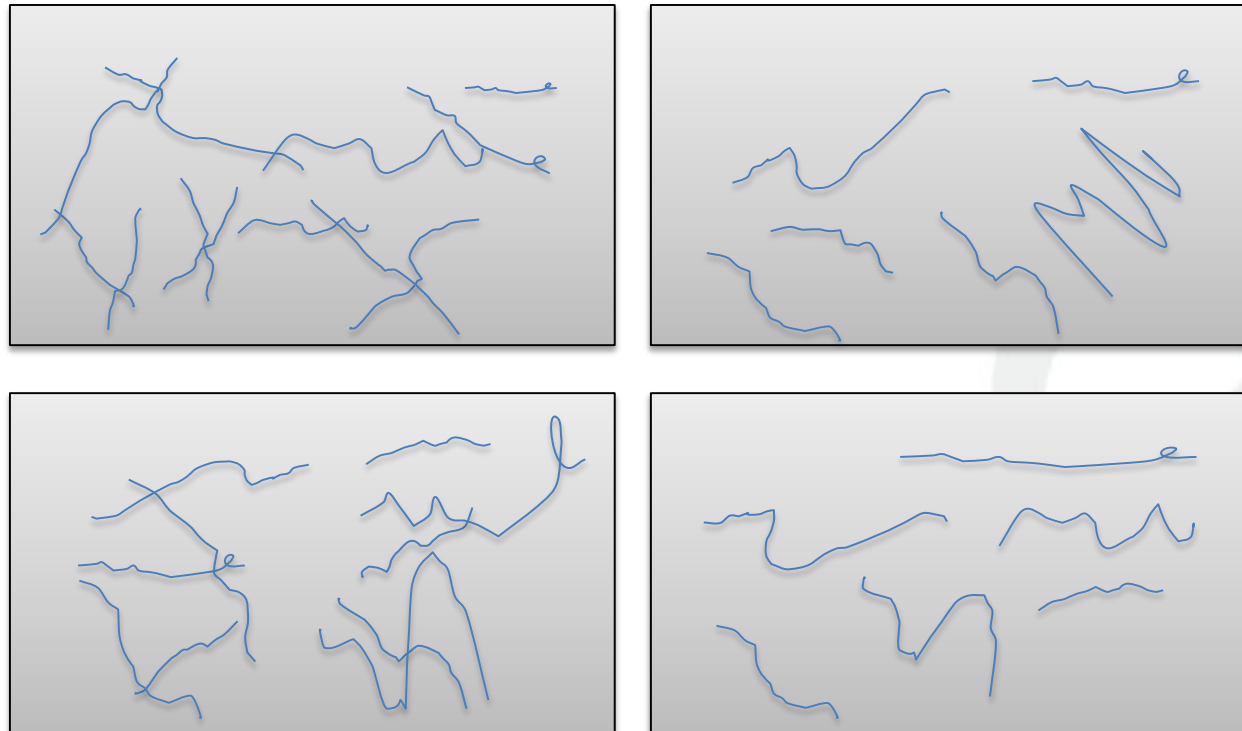
ISEC Radiation Image Enhancement

A sequence of images are compared, pixel by pixel to find the similarities and the differences between images. This is done in real time, through a camera application.



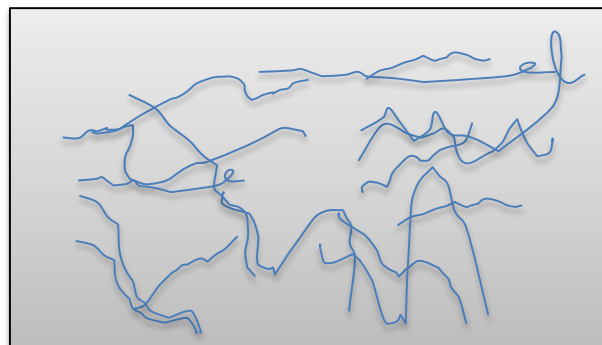
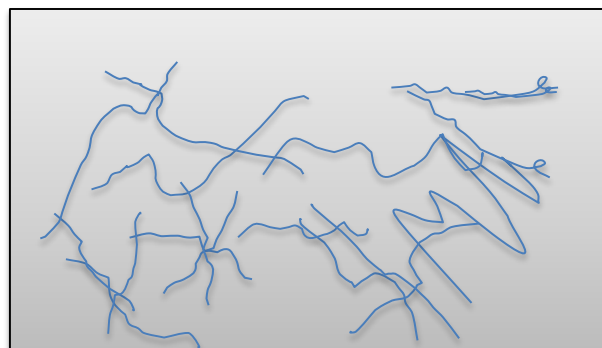
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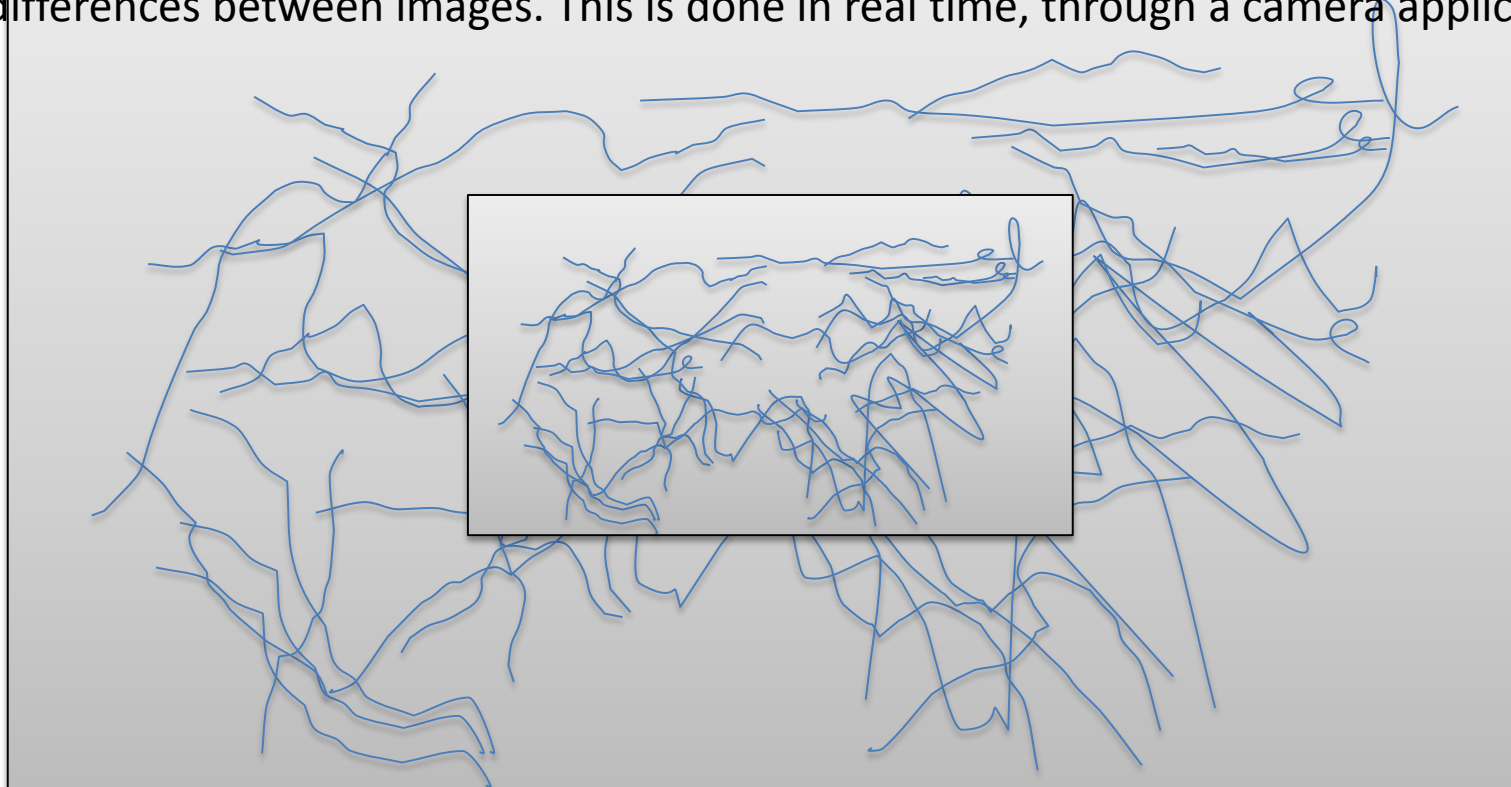
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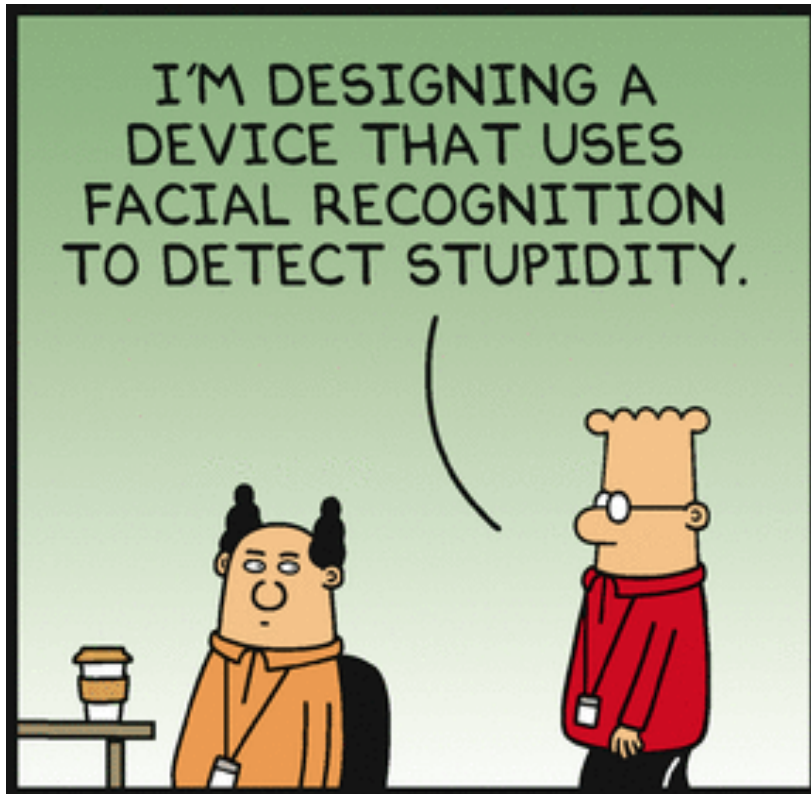
ISEC Radiation Image Enhancement



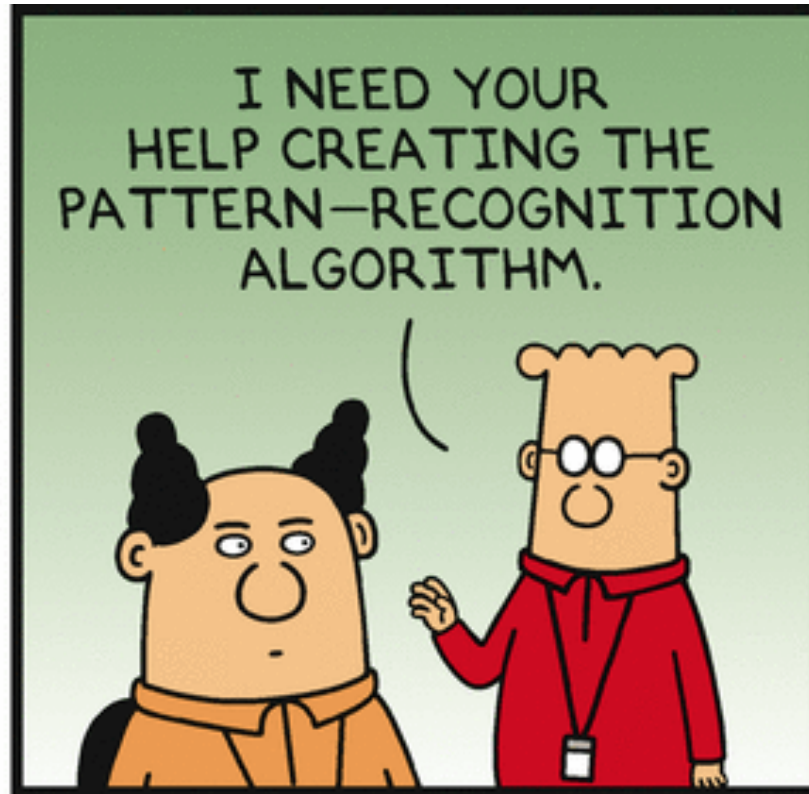
Each frame is analyzed and the pixels that deviate from the average between frames are removed and substituted with the common denominator pixel.



Intelligent video applications



DILBERT.COM @SCOTTADAMSSAYS

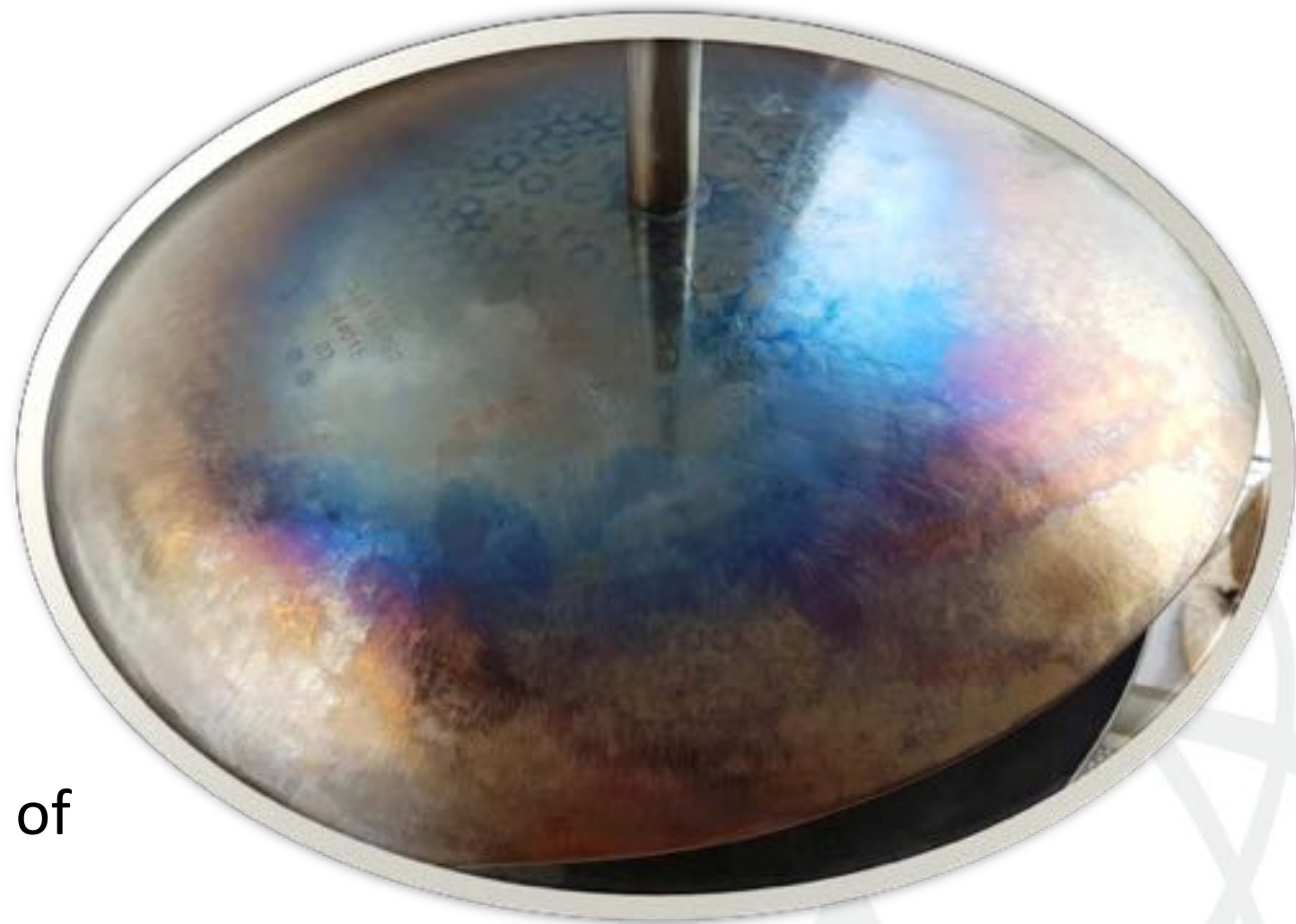


5-16-18 ©2018 Scott Adams, Inc./Dist. by Andrews McMeel



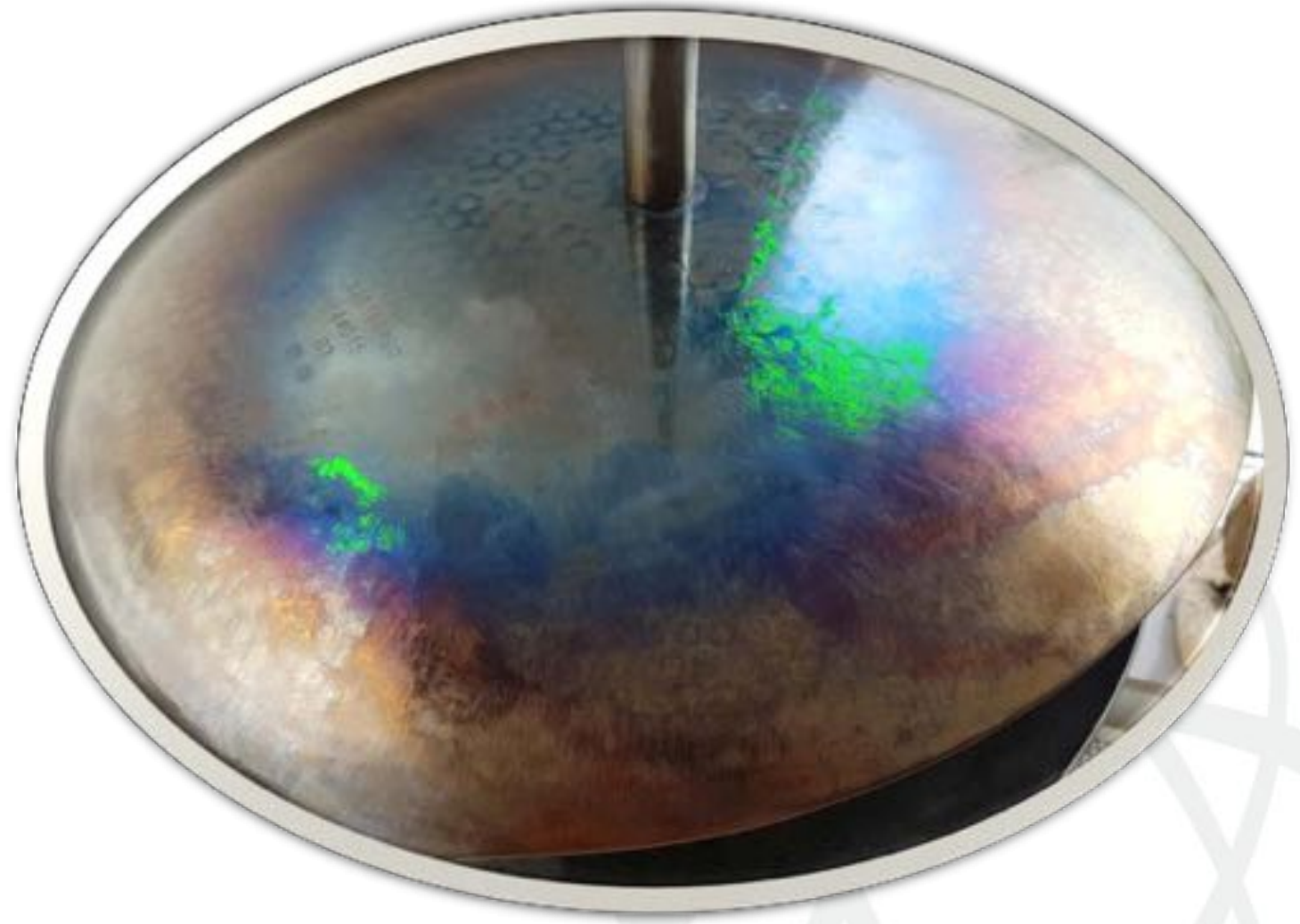
What is video analytics?

- Use software to detect “something”
- Examples
 - Movement
 - (Mis-) Alignment
 - Counting things
 - Color variances
 - Measurements
- Input and output for control of other devices



How can it be used in nuclear industry?

- Beta application detect metallurgic discoloration?
- Define one color that “shouldn’t be” present
- Software scan images and swap color – in real time!
- Provides automatic indication for area to investigate further
- In *early concept* so far





Missing the train – an industry risk.

- Ongoing technological revolution
- Legacy infrastructure, with expensive to replace coax cables often used as “excuse” for a all or nothing approach to tech
- High risk in NOT keeping up with technology and competence development.
- Be curious and use your vendors

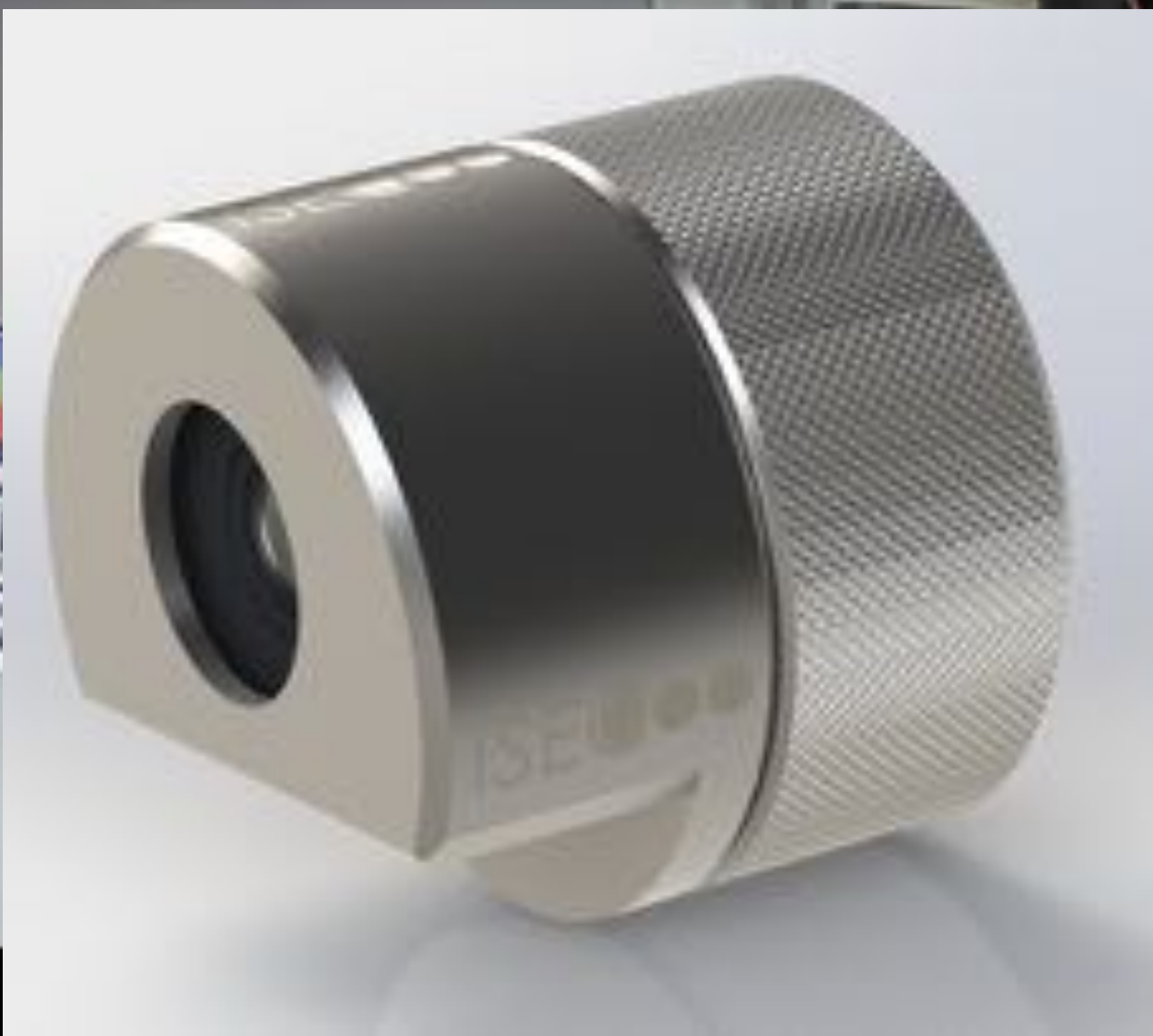


Open innovation - Customer sample case

- Full 1080P HD
- 10 X zoom Non-Browning lens
- 100.000 Rad/h environment
- 20 Hrs lifespan
- Weight less than 15lbs
- Size less than 6" diameter
- ...



09:58
11.11



Keep learning! Be curious!



***Because the industry needs more
than just faster horses!***

Bio: Runar Asly – R&D Manager ISEC Monitoring Systems

- R&D and Operations Manager – ISEC Monitoring systems
- Academy & Project Manager – Axis Communications
- Army Signals Officer – Norwegian Army
- www.linkedin.com/in/runarasly/

