



Transportation  
Safety Board  
of Canada

Bureau de la sécurité  
des transports  
du Canada



# Presentation to IASS 2017

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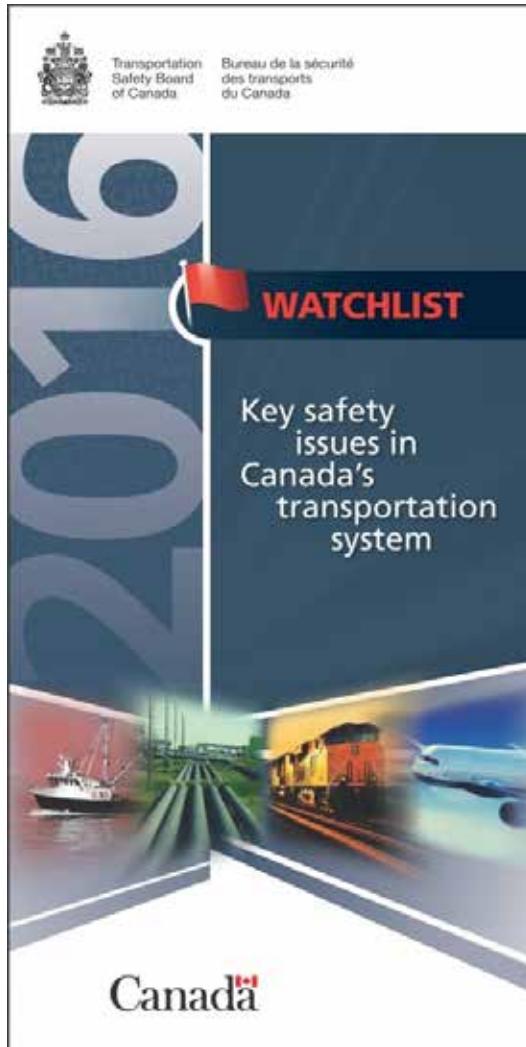
Canada

# Outline

- TSB Watchlist
- TSB investigation report A15H0002 – Halifax
- Questions



# Watchlist 2016



**Unstable approaches**

**Runway overruns**

**Risk of collisions on runways**

**Safety management and oversight**

**Slow progress addressing TSB recommendations**

**Commercial fishing safety**

**Fatigue management systems for train crews**

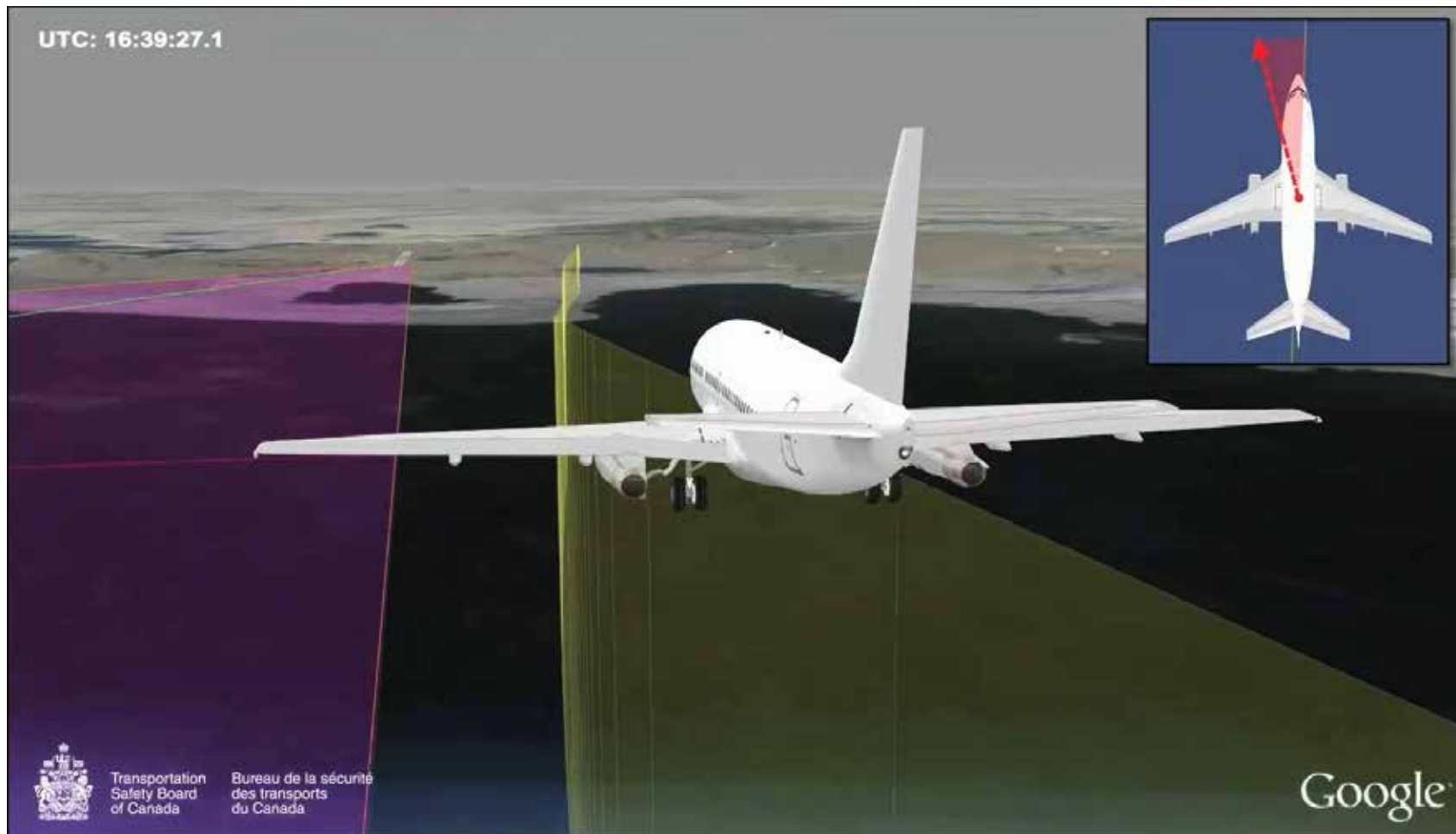
**Transportation of flammable liquids by rail**

**Following railway signal indications**

**On-board voice and video recorders**



# Aviation issue: Unstable approaches



## Unstable approaches: action required

This issue will remain on the Watchlist until:

- major airlines track stable-approach policy compliance through their safety management systems, and take action to reduce unstable approaches that continue to landing; and
- there is a reduction in the number of incidents of unstable approach and in the number of accidents in which approach stability was a causal or contributory factor.



# Aviation issue: Runway overruns



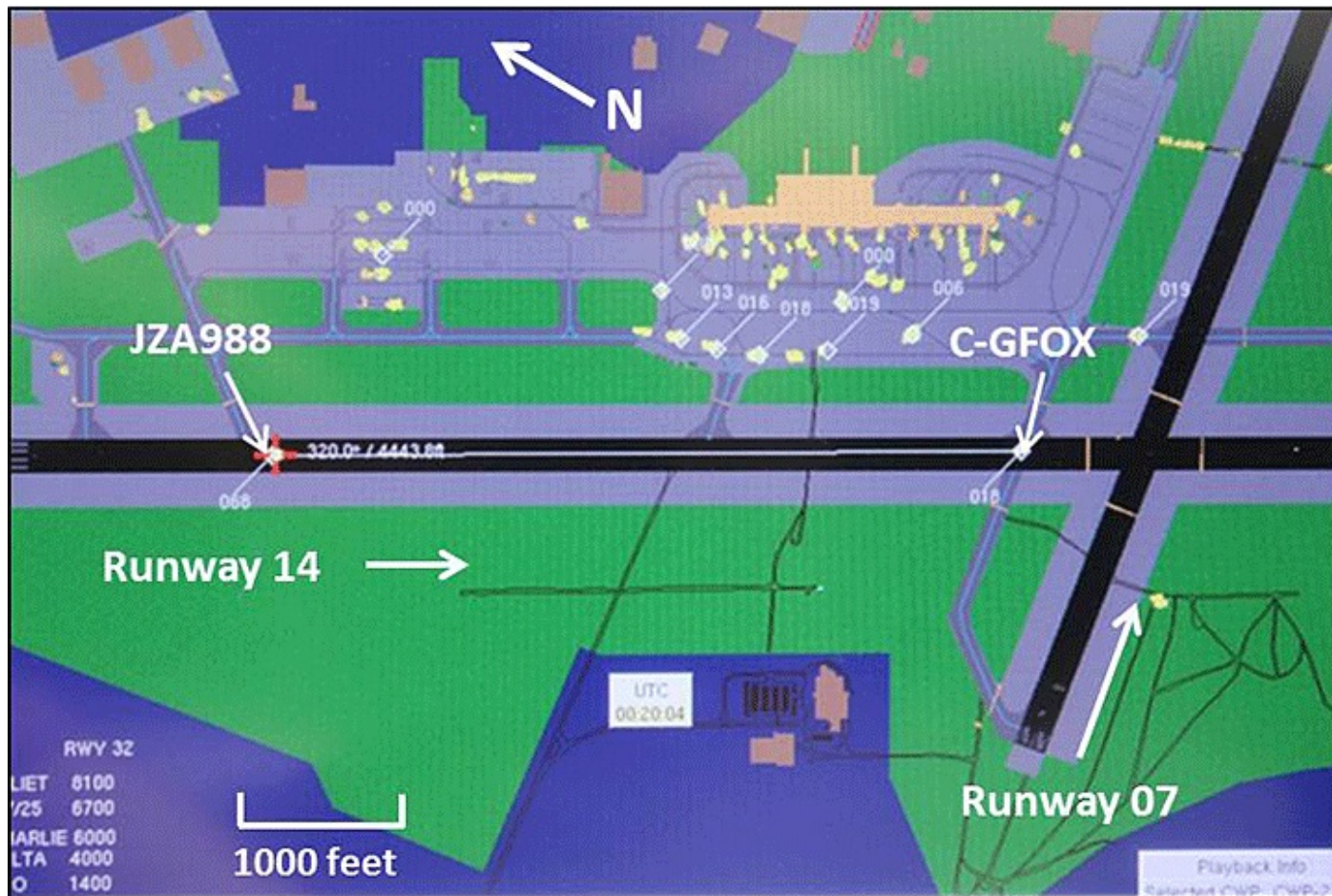
## Runway overruns: action required

This issue will remain on the Watchlist until:

- pilots receive timely information about runway surface conditions to calculate the landing distance required, no matter the season;
- Transport Canada requires appropriate RESAs at Canadian airports to reduce risks when a runway overrun occurs; and
- major airports provide adequate RESAs or other engineered systems and structures to safely stop aircraft that overrun.



# Aviation issue: Risk of collisions on runways





# Risk of collisions on runways: action required

This issue will remain on the Watchlist until:

- new technological defences are installed at Canada's major airports to reduce serious runway incursions; and
- the overall number of runway incursions is reduced.



# Multi-modal issue: Safety management and oversight

- Some transportation companies do not manage safety risks effectively.
- Many Canadian air operators aren't required to have formal safety management processes in place.
- Transport Canada oversight and intervention aren't always effective at changing companies' operating practices.



# Safety management and oversight: action required

This issue will remain on the Watchlist until:

- operators with an SMS ***demonstrate that it works***; and
- Transport Canada intervenes to **change** unsafe operating practices.



# Multi-modal issue: slow Transport Canada progress on TSB recommendations

Mode	10–14 years	15–19 years	More than 20 years	Total
Air	3	4	32	39
Rail	1	1	1	3
Marine	3	1	6	10
Total	7	6	39	52



## Slow progress: action required

This issue will remain on the Watchlist until:

- **Transport Canada** makes a clear commitment to action;
- **Government** accelerates the process to take action; and
- the backlog of outstanding recommendations decreases.



# Ongoing Watchlist activities

- **No more waiting** for stakeholders to take notice
- **Proactive outreach** with key government and industry leaders
- New investigation into **multiple incursions at CYYZ**

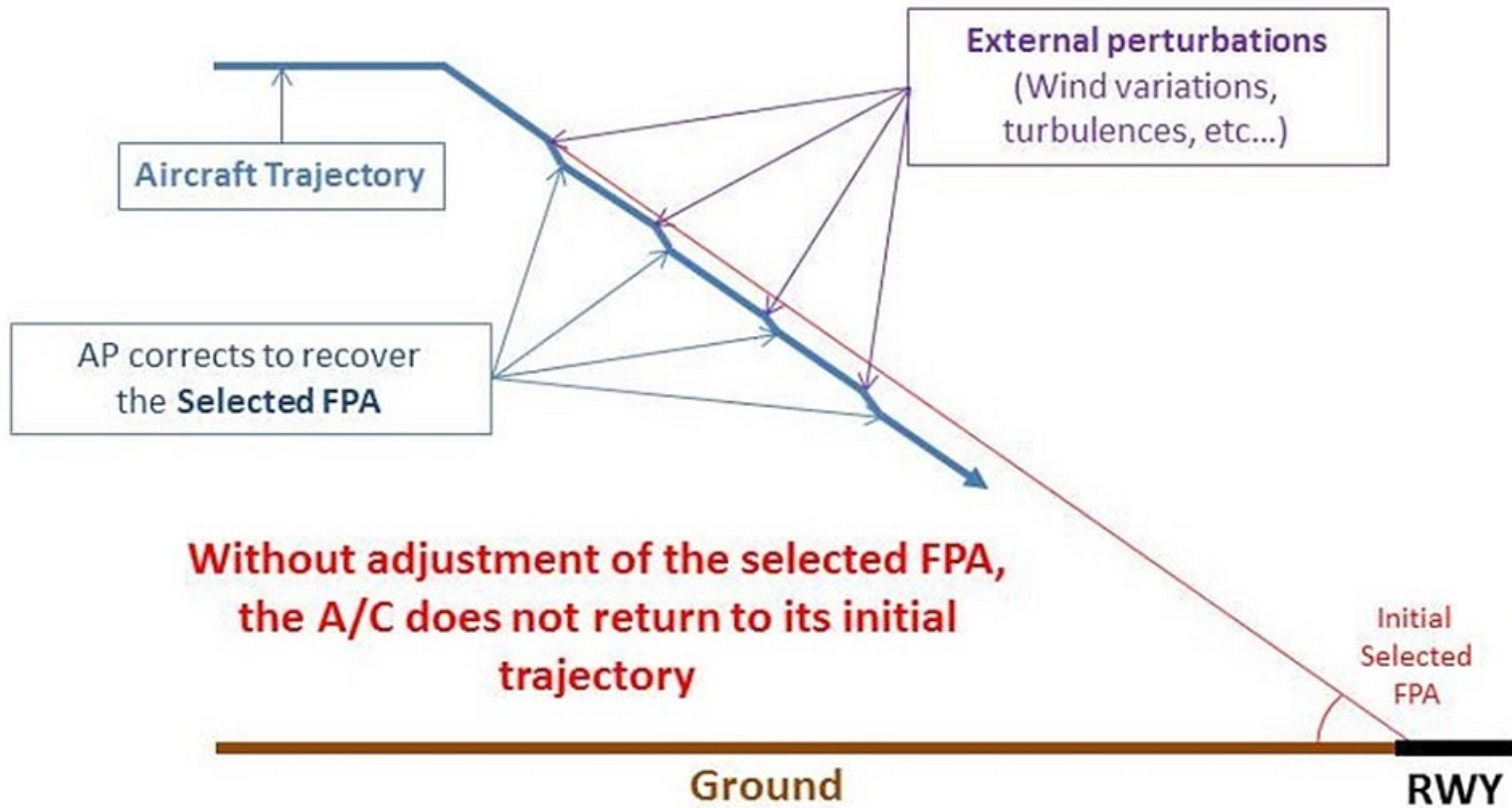


# TSB investigation report A15H0002 (Halifax)

View animation: <https://www.youtube.com/watch?v=suc2Y3Z9Afc>

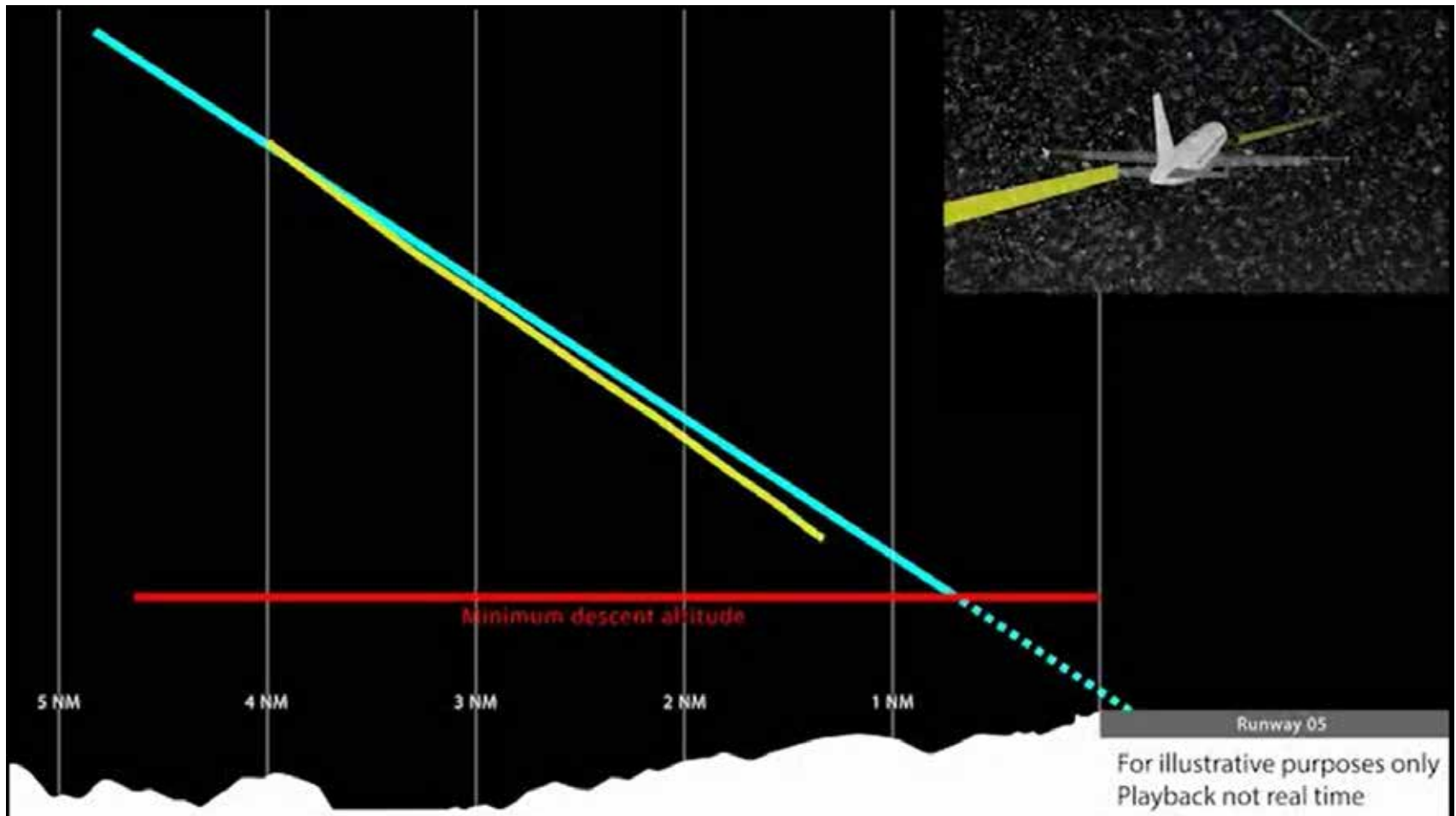


# Limitations of using Airbus FPA mode





# Air Canada SOPs



# Airfield lighting

*"If the type of approach lighting system on a runway is not factored into the minimum visibility required to carry out an approach, in conditions of reduced visibility, the lighting available risks being less than adequate for flight crews to assess the aircraft's position and decide whether or not to continue the approach to a safe landing."*



## Approach to CYHZ

*"The Air Canada Flight Operations Manual did not identify that the required visual reference should enable the pilot to assess aircraft position and rate of change of position in order to continue the approach to a landing."*

*"In Canada, the minimum visibility that is authorized by the operations specification for non-precision approaches does not take into account the type of approach lighting system installed on the runway."*



# Airport emergency response: what went wrong

Delay transporting passengers to indoor facility:

- severe weather
- failure of backup power systems
  - disruptions to radio network
- emergency response plans:
  - “Park'N Fly” mini-buses not identified as transportation resources
  - No instruction on when/how to request and dispatch any transportation resources



## Passenger safety

- Carry on luggage: leave it behind
- Wear clothing appropriate to the weather
- Lack of adequate child restraints
  - TSB Recommendation A15-02
- Review pre-flight safety briefings and safety features cards



## Medical issues

- Obstructive sleep apnea (OSA) is associated with fatigue
- Untreated, OSA is not compatible with pilot certification
- TC's handbook for aviation medical examiners does not provide specific information or guidance regarding OSA



# Safety action taken

## Air Canada:

- Guidance to pilots on visual references required to continue an approach
- Explicit warning to pilots about limitations of autopilot and Flight Path Angle mode

## CYHZ:

- Installed high-intensity approach lighting systems on Runway 05 and Runway 32
- Upgrades to emergency response plan
- Upgrades to backup power

## NAV CANADA:

- Issued new lighting instructions to ATC personnel
- Accelerated publication of revised global navigation satellite system procedures for Runway 05



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