



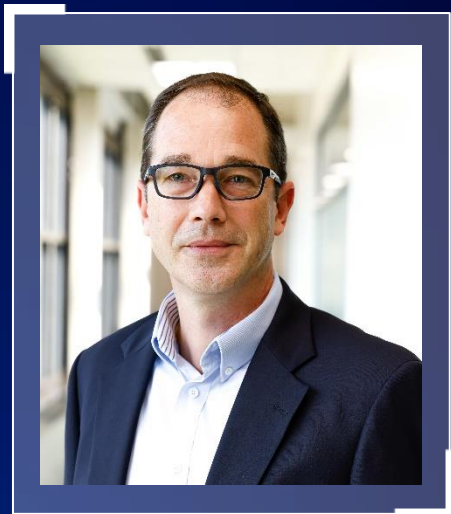
SINGAPORE AIRSHOW

CFM INTERNATIONAL

MEDIA BRIEFING

2024

TODAY'S SPEAKERS



Arjan Hegeman

General manager, advanced technology
GE Aerospace



Pierre Cottenceau

VP, Engineering, Research & Technology
Safran Aircraft Engines

CFM, A WORLD-LEADING ENGINE SUPPLIER FOR NARROWBODY AIRCRAFT

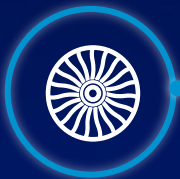


CFM56, THE INDUSTRY'S BEST-SELLING ENGINE

33,000+ engines delivered



LEAP-1A-powered Airbus A320neo family aircraft



LEAP, A NEW GENERATION ENGINE

powering Airbus A320neo, Boeing 737 MAX and COMAC C919 family aircraft



LEAP-1B-powered Boeing 737 MAX family aircraft



5+ YEARS OF PRODUCTION

10,500+ LEAP engine backlog



LEAP-1C-powered COMAC C919 aircraft



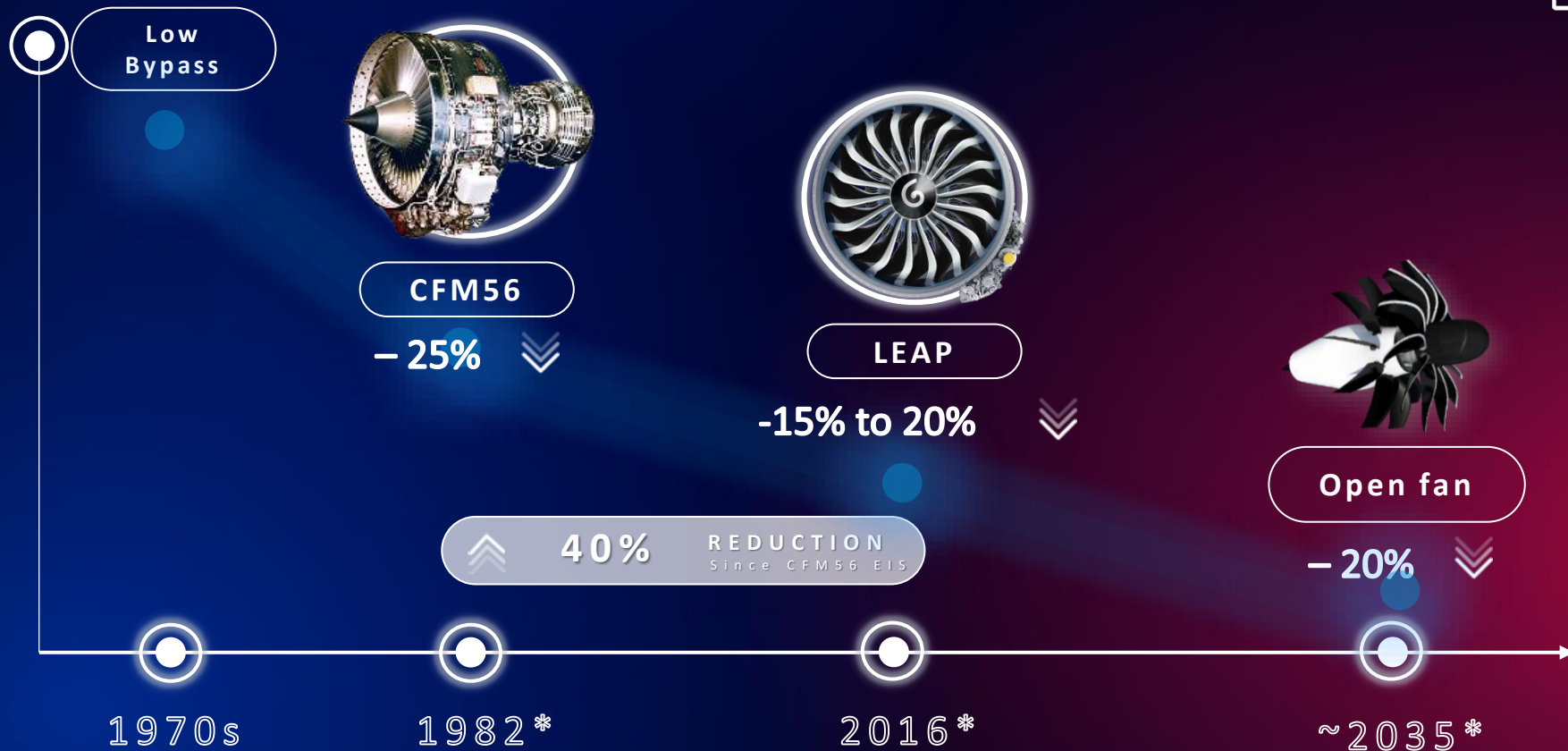
GLOBAL FLEET

600+ airline customers worldwide



RISING TO THE CHALLENGE
OF A SUSTAINABLE FUTURE

REVOLUTIONARY CHANGE TO CONTINUE EFFICIENCY LEGACY



*compared to previous generation engines

CFM RISE BY THE NUMBERS

100%

SAF COMPATIBILITY

100+

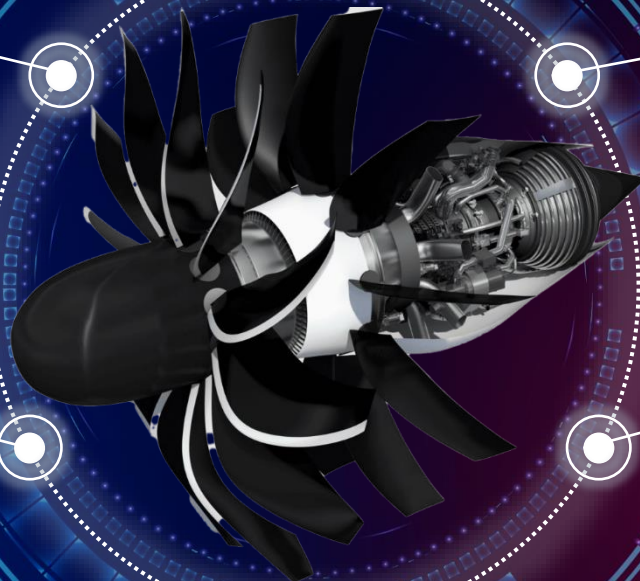
TESTS
COMPLETED

20%

BETTER FUEL EFFICIENCY TARGET

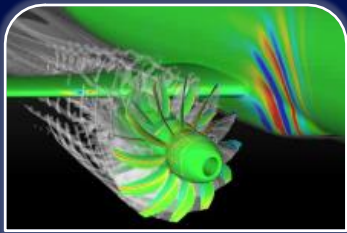
1000+

ENGINEERS
WORLDWIDE



CFM RISE ...

UNCOMPROMISING NEW TECHNOLOGIES



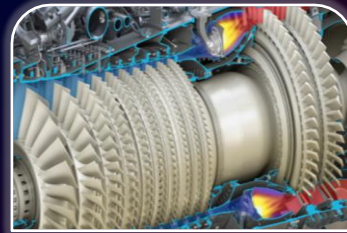
- Next-generation architecture
- Step-change in efficiency vs. ducted fans
- Targeting lower noise level vs current engine

OPEN FAN



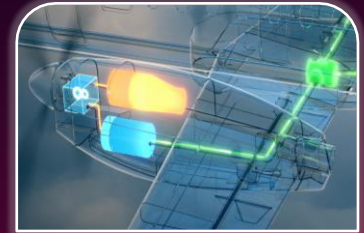
- RISE technologies to be 100% SAF certified
- Developing key hydrogen propulsion building blocks
- Testing hydrogen-powered engine

ALTERNATIVE FUELS



- Next-generation compressor technologies & materials
- Increased thermal efficiency
- Higher operating pressure

COMPACT CORE



- Developing MW-class hybrid electric powertrain
- Advancing higher power density / lower weight components
- Decade+ of experience

HYBRID ELECTRIC

MAJOR TESTING, FIRST FORGINGS

GREAT PROGRESS SINCE 2021 PROGRAM LAUNCH



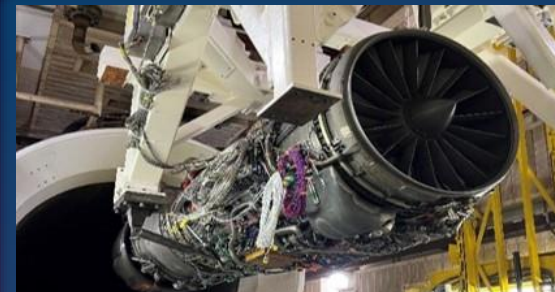
- Fan blades: static & dynamic tests, including ingestion and vibration
- Open fan 1:5 scale model wind tunnel test; aerodynamics and acoustics tests ongoing
- High-speed low-pressure turbine test
- First manufactured parts

FAN TESTING AND FORGINGS



- Deploying supercomputing capability combined with state-of-art system testing with Airbus*
- Improving cabin noise experience to exceed passenger expectations

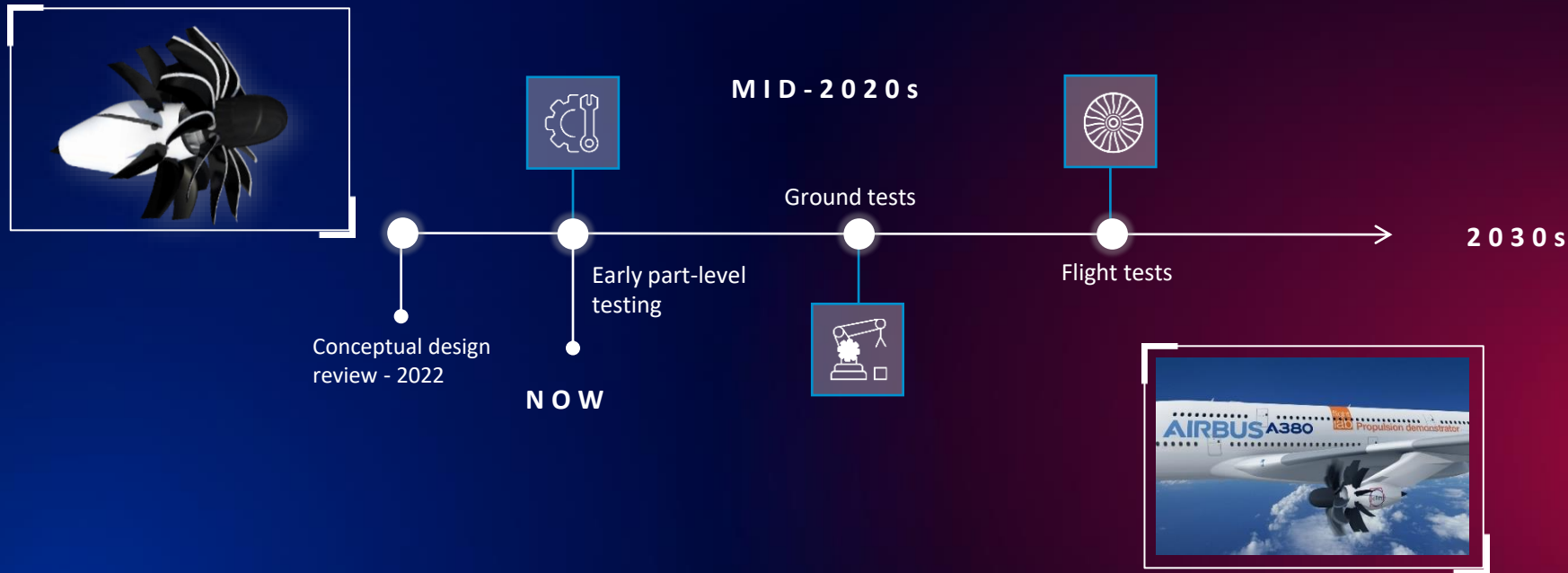
AIRCRAFT INSTALLATION/
INTEGRATION



- First full engine successfully ran in 2023 with next-generation turbine blade technology
- Demonstrating advanced cooling technology to enable improved fuel efficiency

COMPACT CORE
TURBINE BLADES

ON TRACK FOR GROUND AND FLIGHT TESTS THIS DECADE



CFM REALIZING ITS CLEAR AMBITION TOWARDS DECARBONIZATION



**UNCOMPROMISING
STANDARDS**

**GLOBAL
COLLABORATION**

**DECADES OF
EXPERIENCE**



QUESTIONS
QUESTIONS