

Proposed Opening Remarks

"Technology in the Service of Man"

Lewis Research Center
Cleveland, Ohio

Wednesday, September 19, 1973

9:09 am EDT Dr. George M. Low

W. H. Fletcher talk

Not delivered
W. H. Fletcher

Thank you, Bruce, I guess I'm to blame for asking the Lewis Research Center to make this presentation of its current activities as what I hope will be the first of a series to be repeated at various other Field Centers. For it is through our nine Field Centers that NASA's strategies and plans are put into execution. Here is where the action is. And having started my career at Lewis, I knew that I could turn with confidence to these people to set a high standard for us.

I find it evident that the United States is clearly first in the world in aeronautics and in space exploration and technology. But without throwing gloom on what I expect to be a pleasant day, let me note that we are under pressure in both areas.

Foreign competition in aeronautics is growing as foreigners eye the 100 to 150 billion dollar market of the future that Dr. Fletcher mentioned. We are already aware of this competition in short-haul aircraft and in supersonic transports. Our 3 billion dollar favorable export balance in this field could be eroded away, as it already has in other high technology fields.

In space activities we find ourselves in a fascinating role of simultaneously cooperating with and competing with the other big space-faring nation, Russia.

I am personally engaged for NASA in trying to expand the areas of

cooperation with the Soviets in conformity with the Cooperative Agreements between our nations of May 1972. We are already exchanging some data on weather and on earth resources, especially with regard to pollution, and we hope to increase this activity. We are engaged in the engineering for the Apollo-Soyuz Test Project, jointly with Russia, in which we will develop and test systems for rendezvous and docking between manned spacecraft. About two years from now we will try docking, rendezvous, and crew exchange between an Apollo and a Soyuz.

Meanwhile, in the first six months of this year, the Russians have announced 42 space payloads to 12 for the U. S.; in 1972 it was 89 to 52, if keeping score means something. The Soviets continue large booster production; we suspended ours several years ago. The Soviets continue to invest more than twice the fraction of their GNP on space than we do. We have seen employment levels on NASA programs shrink from 420,000 six years ago to about 150,000 now.

But, if a \$3 billion budget is only about 1 cent of each dollar of federal outlay, it is still a lot of money, and this agency is committed to getting all the aerospace technology it can for the buck.

That's why Shuttle is so important to us. It should both provide the launch capability needed for future space activities of all types, and permit specialists in many varied fields to carry out experiments and useful applications in space in a much simpler and economical manner.

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And much of my interest in being here today is tucked up in that theme 'Technology in the Service of Man'. For I note that a number of programs in aeronautics and in space technology that will be presented today are clearly aimed at giving us more aerospace for the buck.

Thank you, Bruce.

9:14 am EDT Mr. Lundin

Thank you, Dr. Low.

Also here today is my own boss, the Associate Administrator for Aeronautics and Space Technology, Mr. Roy Jackson. Roy, will you take a bow? Thank you.

Since its origin in 1941, over three decades ago, the Lewis Research Center has been dedicated to the principle of technical excellence in the service of others. As the propulsion research center of the National Advisory Committee for Aeronautics until 1958, it was our particular task under this guiding principle to advance the technology of our Nation's aircraft engines. From this effort, in partnership with other research laboratories and American industry, came many benefits to our Nation. The air arm of our military forces was strengthened, a new level of mobility was provided to our people and their goods, and American aircraft came to dominate the commercial fleets of the free world.

In October of 1958, just fifteen years ago, Lewis became part of the NASA with a broadened responsibility in the fields of both propulsion and power for both aeronautical and space applications. Here our technologies have helped explore the planets, place men on the moon, measure the stars, and view the resources and environment of our earth from a vantage point in space. The ultimate benefits of this new knowledge and these new technical capabilities are truly immeasurable.

Within recent years, the technical capabilities born of the aerospace program and the many needs of people here on earth have started to become joined. A major thrust of our aeronautical research

today is on making our aircraft quieter, safer, cleaner, more economical and more convenient to the traveler. Our capabilities in the many complex disciplines of power generation and energy conversion for space have much in common with our energy problems here on earth. We are, therefore, particularly pleased to be able to apply our technical abundant, clean energy and economical, clean transportation for all of our people.

Following our traditional role of technical service to others, I am also very pleased to note here the emergence of many productive relationships and joint endeavors with many other agencies of our government - federal, state and local. Among the several agencies at the federal level with which we have joined forces are the Department of Transportation, Department of Interior, Environmental Protection Agency, and National Science Foundation, to name a few, in addition, of course, to our traditional relationships with the several departments of our defense establishment.

Our program today is intended to give you a look at our Center and to review most of our current activities and their purpose. Topics to be discussed will include quieter engines; cleaner skies; new modes of air transportation; rocket-related technologies; services from satellites; and recent advances pertinent to energy and power, lubrication and wear, materials, and communications.

It is an exciting time - this broadening of the application of our technologies to many purposes. All of us of Lewis are pleased that we are able to share with you a few selected examples of "Technology in the Service of Man".

And, now, to start us on our way, may I introduce my colleague, Dr. Walter T. Olson. Director of Technology Utilization and Public Affairs here, who has served as General Chairman in the organization of this program. Ted.

Opening Remarks
General Chairman - Dr. Walter T. Olson
"Technology in the Service of Man"
September 19, 20, 21, 1973
Cleveland, Ohio

Thank you, Bruce. I add my welcome for all of us.

Our plan today is to move you by buses in groups of about 50 from one to another of 9 locations in our Center. Each location will feature a 25-minute discussion.

While the timing is not so split-second that buses may collide at intersections, you may get the feeling of being tightly organized and scheduled. Can't be helped. But we do want your day to be comfortable as well as useful. So we've tried to anticipate your special needs. Some services available are listed on the back of your badge.

1. A message center. Incoming messages will be delivered to you. You can almost always reach an outside telephone.
2. We have a baggage room in this building and buses will stop by here for baggage at end of day.
3. And we can help you with travel, transportation, hotels, dispensary, contacting people, lost and found, or emergency transportation out of the Center.

The key to these services, and, in fact anything else that you may need is your tour group leader. Look at the color on your badge. (Silver, gold, green, blue, yellow, pink, white, buff, salmon). That's your group color. Your tour group leader carries a sign of that color. (The euphemism around here for that sign, or banner of strange device, or gonfalon seems to be lollipop.) And your bus is color-labeled. Ask your tour group leader, - or any of us, - for whatever you need. We want to be good hosts; let us know your needs or wishes.

We'll all have lunch together.

One of NASA's concerns is that its technology be utilized widely, certainly outside the aerospace field as well as in. "Technology in the Service of Man is what NASA is all about. And so if you learn of something about which you'd like to know more, please feel free to write, call, or visit us about it. Communicate with our Director, Bruce Lundin, or me, W. T. Olson. We will be pleased to arrange appropriate meetings between you or your representative.

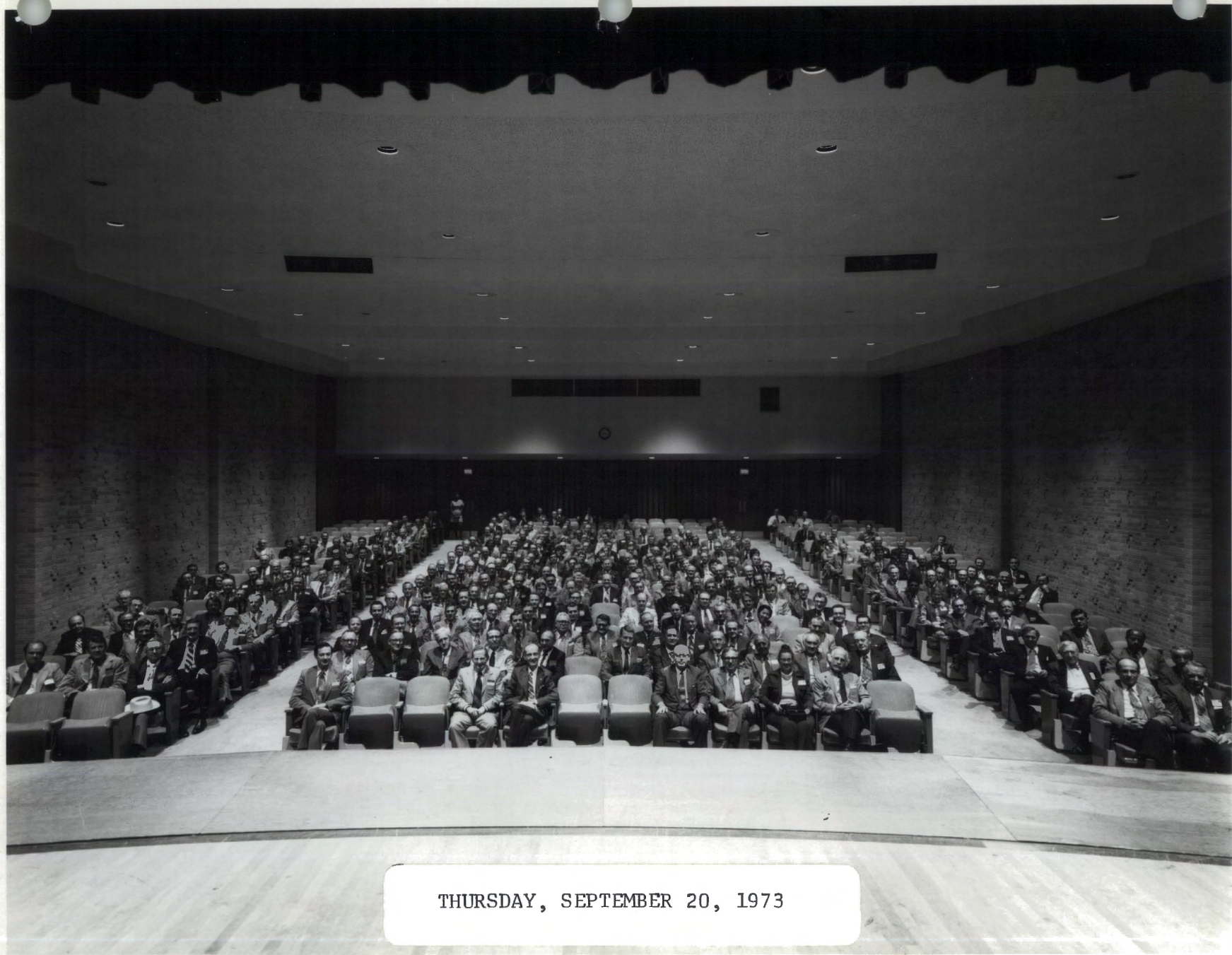
At 4:30 today, we'll all be together again in our Flight Research Hangar where NASA-wide exhibits are on display and where we hope you will enjoy an attitude adjustment time with members of our staff who participated in today's program. A booklet summarizing today's program will be available there. From there, starting at 5 p.m., buses will shuttle at about 5 minute intervals to the parking lot and depart at about 5-10 minute intervals to the airport and motels via the baggage room. We'll remind you of these departure plans again at the end of the day.

Now: it's 9:____, almost time to move out to the buses to which your badge color codes you. Wait. One more thing. Watch the birdie!

Up the aisles - out through the lobby to the buses.

Have a good day.

NASA
C-73-3371



THURSDAY, SEPTEMBER 20, 1973

Proposed Opening Remarks

'Technology in the Service of Man'

Lewis Research Center
Cleveland, Ohio
Thursday, September 20, 1973

9 am EDT Mr. Bruce T. Lundin

Ladies and gentlemen, may we come to order.

I'm Bruce Lundin, Director of the Lewis Research Center. Welcome.

I'm doubly pleased to be able to introduce NASA's Deputy Associate Administrator for Technology, Dr. Seymour C. Himmel. First, Dr. Himmel comes from the Office of Aeronautics and Space Technology to which this Lewis Center reports, and he is representing Dr. James Fletcher, Administrator of the National Aeronautics and Space Administration. Dr. Fletcher was required to be in Washington today. Second, Si Himmel is an old friend and comrade whose career started at Lewis in 1948. Just before leaving us for NASA Headquarters in 1971, Dr. Himmel was manager of all of Lewis' rocket, spacecraft and launch vehicle activities, including the Atlas, Titan, Agena, and Centaur vehicles in support of NASA's space flights with them. At NASA Headquarters he has responsibility for research and technology disciplines in aeronautics and space at several field Centers. It's great to have you here today, Si.

Dr. Himmel.

9:01 am EDT Dr. Seymour C. Himmel

I'm delighted to see the fine response to Mr. Lundin's invitation to today's program at our Lewis Research Center, because today more than ever, it is important for the leaders and opinion-shapers in our Nation to understand and to convey to others the nature and value of technology and its role in shaping the future.

Before you move off to hear about the specific work here, I'd like to say just a few words about NASA's program and the future.

NASA will be 15 years old on October 1. Only 15 years ago, jet aircraft were just beginning to cross the ocean. Last year the scheduled airlines carried an almost unbelievable 450 million passengers; 30 million of them traveled overseas. Today, aviation is an \$18 billion industry, employing 750,000 people, and, by exports contributing \$3 billion annually to our balance of trade.

This high technology industry can be expected to grow, probably by a factor of four in the next dozen years; that would project a \$100 to \$150 billion manufacturing market alone.

But there are some fundamental barriers, or constraints, to this growth: noise and pollution; congestion, - in the air, on the ground, and in and around the terminal; and development costs. It is against these factors that most of NASA's aeronautical research activities are directed. You will hear about some of them today.

Only five years ago, the United States had just orbited the first satellite. Our earliest satellites were exploratory. We

explored the physics and the chemistry of the new environment above our thin layer of air. We studied man at work in space. We explored the moon and the close-up appearance of our neighboring planets. And we explored the techniques of serving earthly needs from orbiting platforms; communications, weather observations, and navigation were naturals.

In our present and continuing space programs, the main thrust is directed toward improving our space flight capabilities and toward using these capabilities against contemporary problems. Communications has already evolved into a going business, the Intelsat organization with \$260 million per year revenue. The 36,000 2-way voice channels overseas that Intelsat satellites provide are already more than four times the capacity of all cables. More significantly, they link the peoples of the world in the transactions of commerce, culture, and personal relations as never before. We foresee an increasing role of space communications in impacting education, transportation, preventative and emergency medicine, search and rescue, and disaster alerts.

The future with weather satellites is clearly toward more thorough and profound observations, and, from these, better long-term, that is, 2 weeks, forecasts. The economic payoff here is tremendous.

And you will hear today about the value of our new abilities to look at spaceship earth by eye and by instrument from a sister spaceship flying alongside it.

The Skylab now in operation permits some of man's very first experiments in metallurgical, physical, and biological processing or manufacturing in weightlessness. It is teaching us more about flying in space for long durations. And its solar laboratory is adding a new level of data about our primary energy source to earlier observations with orbiting solar observatories.

We will continue to explore our solar system. Observational flybys of Jupiter will occur this December and again next December; flight times from earth are almost two years. This Lewis Center was responsible for these, and more than 50 other launches. And Lewis will launch the unmanned Mars landers planned for 1975.

To continue to carry out the many useful space missions we foresee at substantially lower costs than present, and to encourage broadening participation in future space flights, we are developing a space transportation system called Space Shuttle. About the size of a DC-9 airplane, it will take off with rocket boosters, deliver 65,000 pounds to orbit, and fly and land like an airplane. It should be ready to play its major role by the end of the decade.

I'm looking forward very much to seeing and hearing the program that the Lewis staff has created for us today. "Technology in the Service of Man" is what NASA is all about. Thank you, Mr. Lundin.

NASA
C-73-3390



FRIDAY, SEPTEMBER 21, 1973

Proposed Opening Remarks

'Technology in the Service of Man'

Lewis Research Center
Cleveland, Ohio
Friday, September 21, 1973

9 am EDT Mr. Bruce T. Lundin

Ladies and gentlemen, may we come to order.

I'm Bruce Lundin, Director of the Lewis Research Center. Welcome.

I'm pleased to introduce NASA's Assistant Administrator for Legislative Affairs, Mr. Gerald D. Griffin, who is here today to represent Dr. James Fletcher, Administrator of the National Aeronautics and Space Administration. Dr. Fletcher was required to be in Washington today.

Mr. Griffin is fairly new to the Washington scene, having been named to his post there just this last Spring (April 23, 1973). A Texan, Mr. Griffin's experience includes engineering with major aerospace concerns, four years as a flying officer with the U. S. Air Force, and since 1964 with NASA at our Manned Spacecraft Center, now called Johnson Spacecraft Center. Mr. Griffin was a flight director on all eleven Apollo missions, and lead flight director on Apollo 12, 15, and 17. A flight director exercises detailed control over all elements of a mission - control center, tracking stations, spacecraft, and crew.

I'm sure many of you here today are already becoming acquainted with Jerry Griffin as he picks up his coordinating responsibilities between our particular parts of the Federal government.

Mr. Griffin.

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