



LEGACY

Our technology has flown on every U.S. Global Positioning System (GPS) satellite launched since 1978

1974	GPS BLOCK 1 WAS AWARDED
1978	FIRST GPS PAYLOAD LAUNCHED

70+

GPS SATELLITES WITH HARRIS TECHNOLOGY FOR

800 YEARS

FAILURE-FREE ON-ORBIT OPERATION

500+

THE NUMBER OF HARRIS DIGITAL PROCESSORS ON ORBIT AND 150 MORE AWAITING LAUNCH

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INVESTMENT

Significant multimillion dollar investments include upgrades to the Mission Data Unit (MDU), Transmitter Subsystem, and Time Keeping System (TKS)

- Proven and vetted process with a qualified supply chain
- Supporting production runs with an established testing infrastructure
- Harris proudly **supports the U.S. Air Force's GPS Mission**

9,000 THE NUMBER OF ENGINEERS AND SCIENTISTS WE EMPLOY

100+
GPS ENGINEERS

111+
PATENTS

GaN Our solid state gallium nitride transmitters will offer much higher efficiency as well as lower cost, size, weight, and power



DIGITAL PAYLOAD

- The current GPS III payload is **70+%** digital
- In **2004**, we demonstrated our first direct digital-to-RF waveform generator by successfully producing and receiving legacy GPS signals and pseudo M-code
- In **2010**, we used our second-generation digital waveform generator design to demonstrate the new L1C GPS signal
- Our **FULLY DIGITAL** navigation payload can offer enhanced performance and enable on-orbit reprogramming and ability to add new signals



TIME KEEPING SYSTEM (TKS)

- We are the **LEADER** in GPS satellite atomic timekeeping
- Our TKS is the **MOST ACCURATE** ever flown, and we are improving its accuracy and reliability through internal investment

60 THE NUMBER OF ATOMIC CLOCKS WE'VE FLOWN ON

20 GPS SATELLITES



MISSION DATA UNIT (MDU)

- The MDU is the brains of the GPS satellite
- Our latest GPS payload includes a greater than **3X** reduction in range error and up to **8X** increase in anti-jamming power, added signals, and greater signal integrity
- Modularity of design allows graceful technology insertion

20 THE NUMBER OF HARRIS MDUS ON GPS SATELLITES SINCE THE PROGRAM BEGAN IN 1974

OUR NEW GPS MDU HAS QUALIFIED FOR SPACEFLIGHT AND HAS COMPLETED SECURITY CERTIFICATION!

3X THE REDUCTION IN RANGE ERROR

8X INCREASE IN ANTI-JAMMING POWER

NEXT-GENERATION GPS SATELLITES WILL IMPROVE POSITION, NAVIGATION, AND TIMING SERVICES, ANTI-JAM, AND INFORMATION ASSURANCE CAPABILITIES, AND **EXTEND SPACECRAFT LIFE TO 15 YEARS—25% LONGER THAN PREVIOUS SATELLITES**