

# FEATURES

## PROVEN RELIABILITY

The combined BCP series has flown for more than an equivalent of 85 years – consistently exceeding spacecraft’s design life – demonstrating Ball’s commitment to quality and reliability at an affordable price.

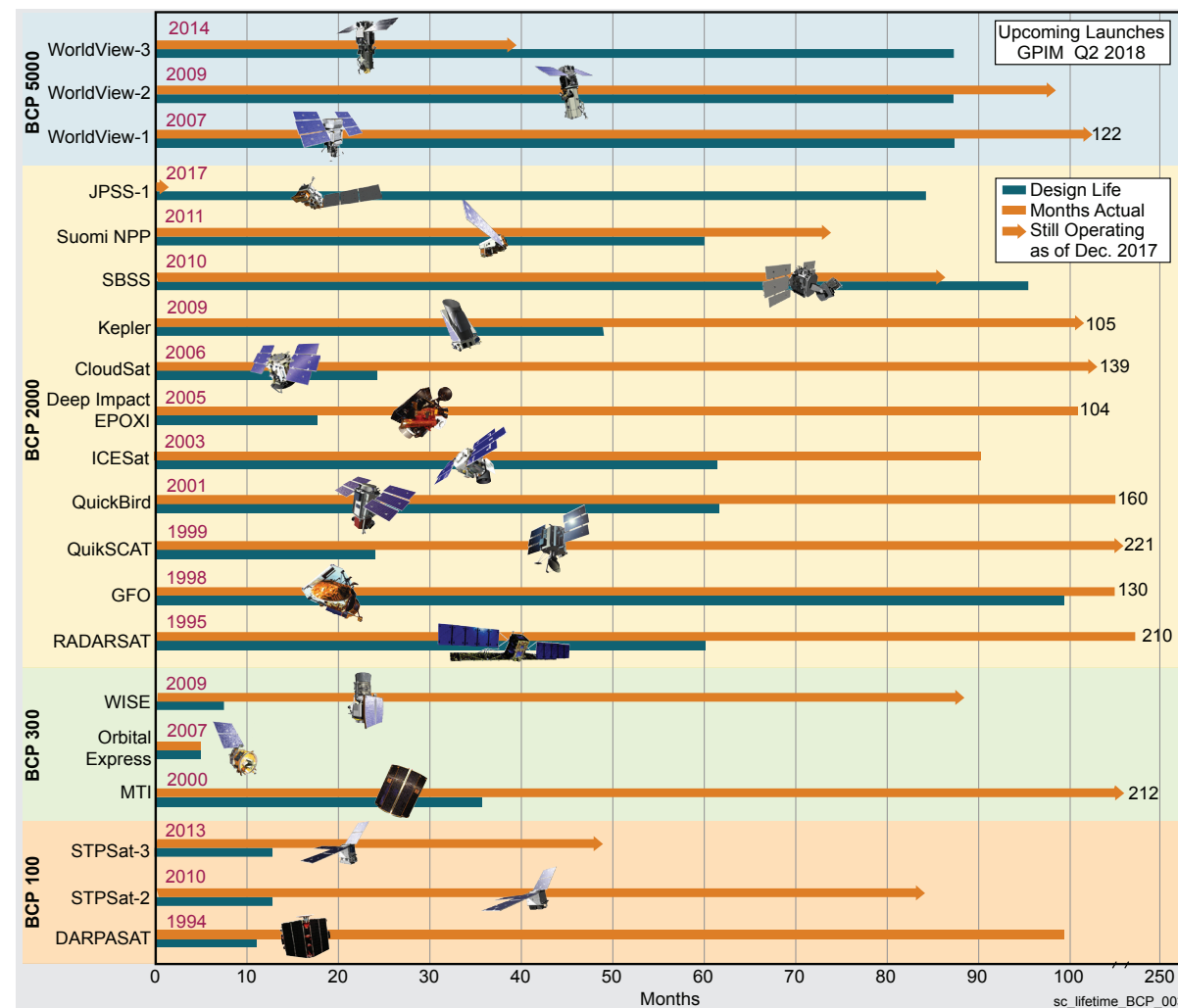
## CONSISTENT, INCREMENTAL ENHANCEMENT

Ball continuously evolves our BCP spacecraft family. A long and dependable BCP history enables incremental improvements to the spacecraft capability with a focus on reduced cost; including high-power systems, low-mass energy storage/ generation subsystems, higher agility, advanced propulsion and higher capacity telecommunications. This approach to spacecraft design, development and manufacturing enables Ball to confidently support operational missions and state-of-

the-art technology demonstration missions, under fixed-price or cost-reimbursable contract types.

## A WIDE RANGE OF MISSIONS

The highly agile Ball Aerospace BCP spacecraft line meets customer needs from initial technology development to prototype demonstration to full, operational mission. The BCP line is flown in a variety of orbits with a wide assortment of payloads, including electro-optical payloads (imagers and limb scanners) with high accuracy pointing requirements. As a space instrument developer, Ball Aerospace applies its payload/instrument accommodation experience to deliver end-to-end space systems. Our experience gives Ball Aerospace a mission systems expertise that translates into a proven ability to fulfill the most challenging mission requirements.



# BALL CONFIGURABLE PLATFORM

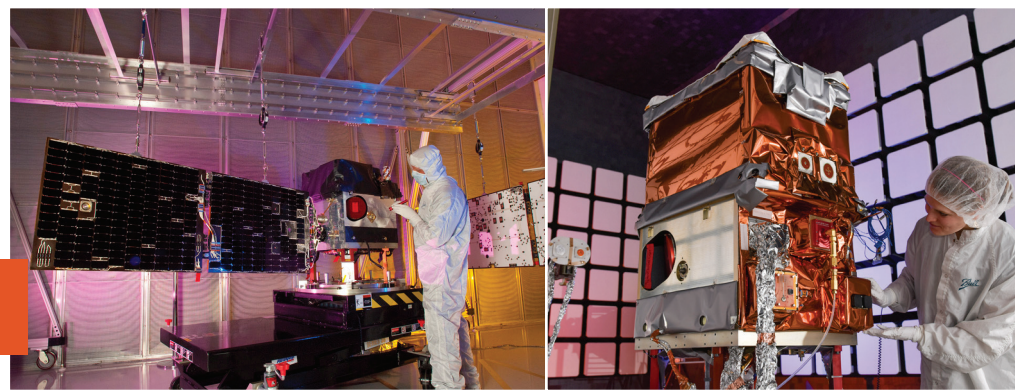


GO BEYOND WITH BALL.®

When challenging missions require payload and spacecraft flexibility at an affordable price, we have flight-proven spacecraft that is the reliable choice – Ball Configurable Platform (BCP).

Built on a readily configurable design, BCP is ideally suited for a range of mission including: space-based environmental monitoring, deep space exploration, Intelligence Surveillance and Reconnaissance and space control missions. Our BCP is your solution in meeting essential mission and programmatic needs

left: STPSat-2, GPIM



## BCP-100

The BCP-100 is your small satellite solution, offering a rapid response for meeting mission and budget requirements. The spacecraft is an ESPA-class design measuring 24 inches wide by 28 inches deep by 38 inches high and has the capacity to accommodate up to four separate payloads.

### STPSAT-2

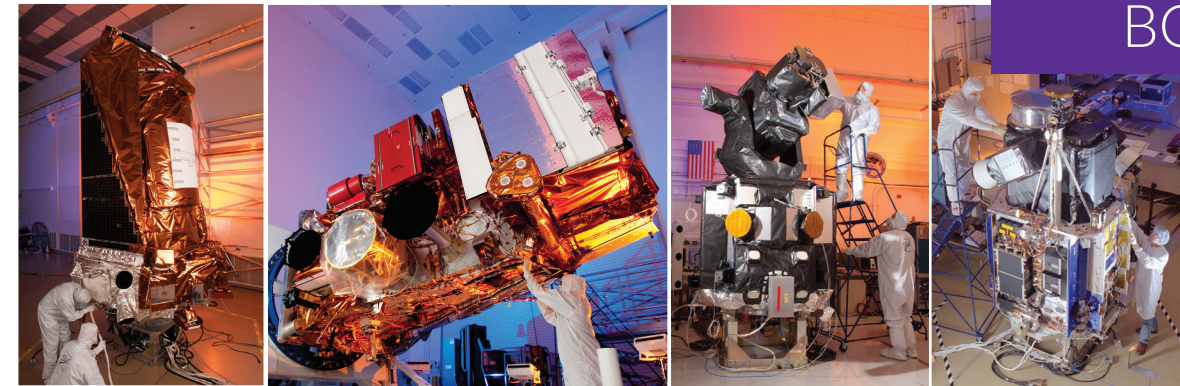
Designed and built for the United States Air Force and launched November 2010 aboard a Minotaur IV, STPSat-2 demonstrates the utility of standard payload interfaces for small payloads. It was the first use of the BCP-100 platform.

### STPSAT-3

Built in only 47 days for the United States Air Force, STPSat-3 demonstrated the capability to easily replace payloads with almost no changes to the as-built spacecraft bus. The vehicle was launched aboard a Minotaur I in November 2013, carrying six payloads representing multiple government organizations.

### GPIM

A Technology Demonstration Mission managed by NASA, the Green Propellant Infusion Mission (GPIM) is expected to launch aboard a SpaceX Falcon Heavy in 2017. This mission uses a BCP-100 spacecraft bus with an Aerojet-Rocketdyne modular propulsion system to test the benefits and capabilities of non-toxic, "green" fuel developed by the U.S. Air Force Research Laboratory at Edwards Air Force Base in California, offers higher performance but is safer to handle and easier on the environment than traditional chemical fuels such as hydrazine now used in thrusters.



## BCP-2000

Left: Kepler, Suomi NPP, SBSS, QuickBird

The BCP-2000 is a stable, agile, high-throughput spacecraft designed for high-performance missions. The BCP-2000 accommodates Earth remote-sensing payloads requiring precision pointing control and rapid target selection flexibility.

### SUOMI NPP

Launched October 2011, this weather and environmental monitoring satellite for NASA and NOAA is a BCP-2000 configuration. Suomi NPP demonstrates Ball's ability to accommodate five government-furnished instruments under a firm, fixed-price contract. This BCP-2000 bus module is also used for the first Joint Polar Satellite System (JPSS-1).

### KEPLER

Launched in March 2009, NASA's Kepler telescope is providing unprecedented exoplanet discoveries. The very stable line-of-sight control on this BCP-2000 Deep Space bus platform points a 95-cm telescope with a 95-megapixel focal plane – one of the largest and most complex to fly in space.

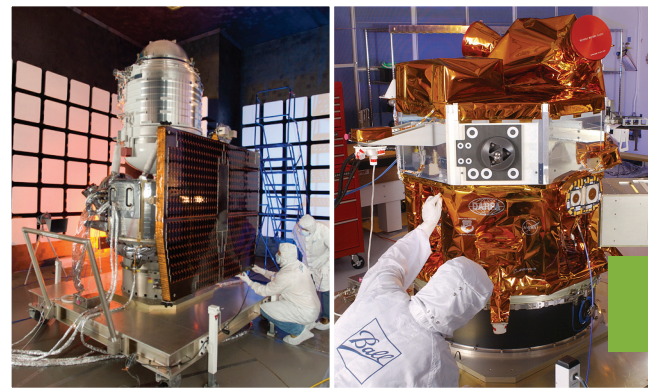
### SBSS

Launched September 2010, the Space Based Space Surveillance (SBSS) spacecraft is revolutionizing the United States Air Force's ability to detect and track space

objects. Using a space situational awareness configuration the BCP-2000 demonstrated Ball's ability to develop and integrate a high agility two-axis gimballed payload.

### QUICKBIRD

This firm, fixed-price earth imaging configuration BCP-2000 spacecraft established an industry milestone for commercial remote sensing with its world-class imagery. Built for DigitalGlobe, QuickBird provided the highest resolution Earth imagery that was commercially available at the time of its October 2001 launch.



Left: WISE, Orbital Express NEXTSAT

## BCP-300

Ideal for both operational and technology demonstration missions, the BCP-300 offers an enhanced capabilities from BCP-100.

### WISE

A NASA Explorer class mission, the Wide-field Infrared Survey Explorer (WISE) launched December 2009. A BCP-300, WISE studies the entire sky in the infrared with far greater sensitivity than any previous mission and continues producing millions of images of stars, asteroids, comets and galaxies.

### ORBITAL EXPRESS NEXTSAT

The Orbital Express NEXTSAT—assisted in the successful demonstration of on-orbit servicing. This BCP-300 showcased capabilities for autonomous rendezvous, docking and component replacement, as well as refueling for the Defense Advanced Research Projects Agency.

WorldView-3

## BCP-5000

Our BCP-5000 offers our highest performance, most capable spacecraft – DigitalGlobe's choice for WorldView-1, -2 and -3 space vehicles. This powerful spacecraft accommodates next-generation optical and synthetic aperture radar remote-sensing payloads. The BCP-5000 provides increased power in standard increments; higher agility with control moment gyros (CMGs) – providing rapid retargeting capability with stability for the finest-spatial-resolution payloads. The BCP-5000 is the quintessential choice for firm, fixed-priced spacecraft missions.

### WORLDVIEW-1

Launched September 2007, WorldView-1 represented a new commercial standard in rapid targeting, image resolution and data handling. The images from WorldView-1 demonstrate the spacecraft's precise geo-location capabilities and its exquisite CMG-based Earth imaging capability.

### WORLDVIEW-2

Launched in October 2009, WorldView-2 provides 0.5 meter panchromatic resolution and 1.8-meter multispectral (8 spectral

bands) images – enabling Ball to further support our customer to enhance contributions to the geospatial information market.

### WORLDVIEW-3

Launched in August 2014, WorldView-3 collects 8-band, short-wave infrared imagery along with all of the features of its predecessors. Ball also developed the Cloud, Aerosol, Water Vapor, Ice, Snow atmospheric instrument – enabling images corrections due to atmospheric haze, soot, dust or other obscurities.

