**James Web Space Telescope**

This article gives an overview of the JWSP in terms of notable project performance numbers. The project suffered from numerous problems that caused the launch to be delayed by more than 15 years and the costs increased by more than 1900%. These problems resulted in major replans of the project 2011 and 2018. Overall slower than planned progress was made on the project.

The initial idea of a replacement for the Hubble Space Telescope started in the late 1980’s. This led to the start of the Next Generation Space Telescope (NGST) project in 1996, which later became the James Webb Space Telescope (JWST). The initial cost estimate for the project was $500M, and NASA planned the initial launch for 2007. This date was, however, delayed several times.

By 2003 the project’s budget had grown to $2.5B and the prime contract was awarded to TRW (who was later acquired by Northrop Grumman). The launch date was updated to 2011.

During 2005 a major replanning of the project took place. This was the result of several delays and technical design issues which increased the cost to $3.5B. The replanning identified additional changes and the updated lifecycle cost was now estimated at $4.5B. The project launch date was also changed to 2013.

Following a Mission Critical Design Review (MCDR) in 2010, the project was replanned. The new launch date was set for 2015, but possibly as late as 2018.

In 2018, NASA delayed the launch by two years to 2020 after the telescope’s sunshield ripped in a test deployment. An independent review of the project during the same year identified 344 single-point failures and the launch date was moved to March 2021.

The JWST was launched aboard an Arianespace Ariane 5 rocket on 25 December 2021. The expected lifecycle cost is $9.7B.

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| Year | Planned Launch | Budget  (billion US$) |
| 1997 | 2007 | 0.5 |
| 1998 | 2007 | 1.0 |
| 1999 | 2007 – 2008 | 1.0 |
| 2000 | 2009 | 1.8 |
| 2002 | 2010 | 2.5 |
| 2003 | 2011 | 2.5 |
| 2005 | 2013 | 3.0 |
| 2006 | 2014 | 4.5 |
| 2008 | Preliminary Design Review | |
| 2008 | 2014 | 5.1 |
| 2010 | Critical Design Review | |
| 2010 | 2015 – 2016 | 6.5 |
| 2011 | 2018 | 8.7 |
| 2013 | 2018 | 8.8 |
| 2017 | 2019 | 8.8 |
| 2018 | 2020 | >8.8 |
| 2019 | March 2021 | 9.66 |
| 2021 | December 2021 | 9.7 |

James Webb Space Telescope Project History: 1995-1996. Retrieved from https://archive.ph/20121212155047/http://www.stsci.edu/jwst/overview/history/1996