

# Story of Iridium

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by Eric Lee · October 1, 2008

It all started one day in 1985 with a vision and commitment of one of Motorola (<http://www.motorola.com/>)'s brightest engineers, whose wife complained that she was unable to reach clients via her cell phone from the Bahamas. He envisioned a technology that would allow effortless communication from and to any corner of the earth. His name was Bary Bertiger (<http://www.zoominfo.com/Search/PersonDetail.aspx?PersonID=24163981>). Bertiger submitted his idea to his superiors (who had rejected the concept, it was no less than Robert Galvin, Motorola's chairman at the time, who gave Bertiger approval to go ahead with the project), gathered a star team of engineers and businessmen and started working on it. His idea was to put up a network of low orbiting (<http://www.answers.com/topic/low-earth-orbit>) satellites covering the entire orbit of the earth and linking them with mesh technology for routing calls to and from any point in the world.



(<https://fail92fail.files.wordpress.com/2008/10/9505-iridium-satellite-phone.jpg>) Work on the project started in 1987. While satellite phones ([http://en.wikipedia.org/wiki/Satellite\\_phone](http://en.wikipedia.org/wiki/Satellite_phone)) were available in the 1980s, they had limited global coverage and, owing to the height the satellites orbited, the transmission and receiving delay made a conversation sound as though speaking down a long tunnel. Motorola thought that the world was ready for something better, and proposed creating a massive network of satellites that would provide global coverage. These satellites would orbit at a much lower altitude than their competitors and so the quality of transmissions would improve dramatically. The initial cost of the project was estimated to be over A\$7 billion and required to put 77 satellites into low earth orbit. Because of this number of satellites, the project was dubbed *Iridium* (<http://www.facts-about.org.uk/science-element-iridium.htm>) after element 77 in the periodic table of Mendeleev ([http://en.wikipedia.org/wiki/Dmitri\\_Mendeleev](http://en.wikipedia.org/wiki/Dmitri_Mendeleev)).

However, cost saving issues resulted in a proposed redesign of the project, reducing the number of satellites to 66 only. The marketers kept the name Iridium, instead of changing it to element 66 — *dysprosium* (<http://www.facts-about.org.uk/science-element-dysprosium.htm>) (from Greek “hard to get”).

The launch of satellites started early in 1997 and was completed by 1998 (from launching pads in Kazakhstan, China and America).

Iridium services commenced from December 1998. “Iridium’s core identity was defined by its transcendence of national borders, a structure that is particularly post-Cold War,” *Wired* magazine gushed in its October 1998 cover story (<http://www.wired.com/wired/archive/6.10/iridium.html>). “Iridium may well serve as a first model of the 21st-century corporation.”

Unfortunately, despite the brilliance of the technology and the team behind its design and marketing, expectations had changed since 1987. People expected their phone to be lightweight, usable inside buildings and the calls to be relatively cheap. Iridium phones were heavy (not suitable for carrying in a pocket) — as they needed powerful batteries — and they didn’t work inside buildings, costing around A\$10 per minute. In parallel, the demand, anticipated

by the original Iridium creators, was slowly being met by a advent of portable mobile phones. 1G cellular telecoms have been launched by NET in Japan in 1979. However, the dawn of mobile phones came with the launch of 2G (<http://en.wikipedia.org/wiki/2G>) systems such as GSM (<http://en.wikipedia.org/wiki/GSM>) successfully ~~Posted by Everfore~~ Mobile Communications) in 1990s and still ubiquitous around the world. By then, the market for satellite phones was estimated at 2-3% of the mobile-phone market and there were other companies (Globalstar (<http://www.globalstar.com/>), ICO (<http://www.ico.com/>), and Ellipso (<http://www.ellipso.com/>)) are chasing the same (satellite) customers.

Less than a year later, *Wired News* backtracked (<http://wired-vig.wired.com/news/business/0,1367,19522,00.html>), saying, “After losing nearly US\$1 billion in two disastrous quarters, the engineering marvel is in danger of becoming the Ford Edsel of the sky.”

At the cost of construction of A\$7 billion, Iridium needed over one million subscribers to break even. By mid 1999 it had gained 55,000 subscribers and was rapidly running out of money. In August 1999, the Iridium was bankrupt and subscribers found themselves without a dial tone. There were several attempts at selling Iridium, but no company could afford it.

By early 2000 the only employees left at Iridium were those employed to ‘de-orbit’ the satellites (during the estimated period of two years).

In 2000, the company was taken over by Iridium Satellite LLC (<http://www.iridium.com/>) (for A\$35 million), contracted by US Defence Department. In 2007, Iridium Satellite LLC announced that it would be launching new satellites (<http://www.pcworld.com/article/id,129151-pg,1/article.html>) to attract partners, providing services beyond voice calling such as a next-generation global positioning system, environmental monitoring and satellite photography, becoming fully operational by 2016 ([http://www.pcworld.com/article/129151/iridium\\_plans\\_nextgeneration\\_ipbased\\_satellites.html](http://www.pcworld.com/article/129151/iridium_plans_nextgeneration_ipbased_satellites.html)).

It currently has 280,000 subscribers

(<http://www.reuters.com/article/pressRelease/idUS251117+05-Aug-2008+PRN20080805>) and counting, despite the fact that the phone requires a line-of-sight with a satellite and thus can't work inside buildings.

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Time will tell if its current incarnation is more successful than its first.

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