

2014 年 11 月 8 日

●インターネット接続のための衛星開発に関心向けるエロン・ムスク氏

【Wall Street Journal, 2014/11/08】

電気自動車や安価なロケットで自動車、宇宙産業に挑んできたエロン・ムスク氏は、世界中にインターネット接続を提供できる、より小型で安価な衛星の開発に目を向けているとのこと。

同氏は、そのためにかなりの周波数を保有するワールドビュー・サテライツを創設した衛星業界の古株で元グーグル経営幹部でもあるグレッグ・ワイラー氏と協力し、重量 250 ポンドを切る衛星を 700 基前後打ち上げる方向で話し合っているという。

しかし、その実現には 10 億ドル、あるいはそれ以上の資金が必要で、技術面や行政面での障壁も多い。

情報筋も、話合いはまだ形を成しつつある段階で、ムスク氏の参加が正式に決まったわけではないとしているが、両氏が衛星を建造する工場の建設も検討しており、フロリダ、コロラド州の関係者と工場建設について話し合ったとも伝えている。

ムスク氏は、スペース・エクスプロレーション・テクノロジーズ（スペース X）という会社も所有しており、ワイラー氏との話の実現すれば、同社が衛星の打ち上げを担当する可能性が高いと見られている。

（参考）本件報道記事

Corporate News: Musk's Mission: Internet Satellites --- The SpaceX CEO Is Working With a Former Google Executive to Develop Smaller, Cheaper Models
By Rolfe Winkler and Andy Pasztor

762 words

8 November 2014

The Wall Street Journal

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English

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Billionaire entrepreneur Elon Musk shook up the automotive and aerospace industries with electric cars and cheap rockets. Now, he is focused on satellites, looking at ways to make smaller, less-expensive models that can deliver Internet access across the globe, according to people familiar with the matter.

Mr. Musk is working with Greg Wyler, a satellite-industry veteran and former Google Inc. executive, these people said. Mr. Wyler founded WorldVu Satellites Ltd., which controls a large block of radio spectrum.

In talks with industry executives, Messrs. Musk and Wyler have discussed launching around 700 satellites, each weighing less than 250 pounds, the people said. That is about half the size of the smallest communications satellites now in commercial use. The satellite constellation would be 10 times the size of the largest current fleet, managed by Iridium Communications Inc.

To be sure, the venture would face large financial, technical and regulatory hurdles, and industry officials estimate that it would cost \$1 billion or more to develop the project. The people familiar with the matter cautioned the venture is in its formative stages, and Mr. Musk's participation isn't certain.

Messrs. Musk and Wyler are considering building a factory to make satellites, the people said. One of the people said initial talks have been held with state officials in Florida and Colorado about locating the factory.

In addition to Mr. Musk, WorldVu is seeking a satellite industry partner to lend expertise to the project, this person said.

Mr. Musk's closely held Space Exploration Technologies Corp., or SpaceX, likely would launch the satellites, those people said, though no agreement is in place. SpaceX has launched a dozen of its Falcon 9 rockets in the past five years and plans more than four dozen launches through 2018. In September, the company won a \$2.6 billion NASA contract to develop, test and fly space taxis to carry U.S. astronauts into orbit.

Building a plant and testing satellites is a lengthy process, and WorldVu needs to clear the use of spectrum with other operators. SpaceX may not have capacity to launch the satellites until the end of the decade, by which time WorldVu risks losing its spectrum.

A previous satellite Internet startup founded by Mr. Wyler, O3b Networks, has faced technical problems with the first four satellites it launched, which likely will shorten their lifespans. Today, O3b serves large areas on either side of the equator with a constellation of eight satellites and is planning to launch four more by the end of the year. Mr. Wyler has left the company, though he remains a significant shareholder.

One indicator of the challenge: Mr. Wyler brought a similar plan to Google, which prides itself on tackling big problems. Yet he stayed only about a year before leaving to work with Mr. Musk.

Two people familiar with the matter said Mr. Wyler's relationship with Google

soured in part because he wasn't sure the search giant had sufficient manufacturing expertise.

Google declined to comment.

If Messrs. Musk and Wyler choose to build the satellites, they would face competition from other makers of small satellites, such as Nevada-based Sierra Nevada Corp. and Britain's Surrey Satellite Technology Ltd.

Messrs. Musk and Wyler share an interest in reducing the cost of satellites.

WorldVu needs a lot of satellites, and could be the anchor customer for a high-volume, low-cost satellite maker. Mr. Musk changed the economics of launching rockets by simplifying designs while building engines and other components in-house.

The smallest communications satellites now weigh under 500 pounds and cost several million dollars each. WorldVu hopes to bring the cost of manufacturing smaller models under \$1 million, according to two people familiar with its plans.

High costs and limited users have hobbled past efforts to deliver telephone and Internet service from space. Iridium filed for bankruptcy protection nine months after it launched in 1998, after attracting few users willing to pay \$3,000 for a phone and up to \$7 a minute for calls. Rival Globalstar Inc. sought bankruptcy protection in 2002. Both re-emerged as mobile-data providers.

Messrs. Musk and Wyler also may also be able to find willing investors among technology giants. Both Google and Facebook Inc. are working to extend Internet access to unwired parts of the globe, through drones, balloons and other means.

Source: Wall Street Journal, 2014/11/08

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