



## A Slow Path to Rapid Success

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When a small group of four visionaries put their "all or nothing" [RapidEye](#) constellation concept on the table and chose to privately fund it — with no guaranteed pre-sale revenue — they did not choose an easy path for themselves. It was a bold, ambitious mission that many thought was doomed to fail.

When word of RapidEye's actions hit the satellite industry, there was no shortage of naysayers who thought the business plan was flawed. "Who tries to build and launch five satellites simultaneously?" they asked. "And who takes on the risk of building and launching five satellites without guaranteed revenue?" they added. But on August 29th, 2008, the doubters were all proved wrong when RapidEye's constellation of five satellites was successfully launched into orbit.

Wolfgang Biedermann, RapidEye's CEO, talked to Earth Imaging Newsletter's [Mary Jo Wagner](#) about the RapidEye "miracle," supplanting Landsat, and cutting a new swath into change-detection applications.

**MJW:** It is difficult to successfully launch one satellite, let alone five simultaneously. What was the atmosphere like on launch day?

**WB:** Tense. Even in the days before the launch you could feel tensions were building and on the day itself it was tense because there is always a risk of launches being aborted for some unforeseen reason. Then when the countdown hit zero and the launch button was pressed, there was a lot of apprehension for the first few minutes to see if the rocket would make it. It wasn't until we made the first contact, an hour and a half after launch, that you could see people begin to relax. But overall it was a really exciting day.

**MJW:** Did you ever consider launching the five satellites separately?

**WB:** Very early on we did. But it quickly became unrealistic because launching every satellite separately would be very expensive. The cost for a launch can range between \$10 and \$20 million U.S. depending on the rocket you are using. We did contemplate two launches. But since we need three working satellites in orbit to meet the basic requirements of our business plan, it really didn't make sense. So we ultimately abandoned that idea and figured it had to be all or nothing.

**MJW:** Now that RapidEye is an operational reality, when will commissioning be completed and sales/distribution begin?

**WB:** Our commissioning is done by MDA [MacDonald Dettwiler], our general contractor. MDA is providing a turnkey system that includes commissioning and calibration. We expect that commissioning will be completed by the end of January or early February.

The sales process started a long time ago and it is a somewhat different sales approach. That is, we don't have a large anchor customer who has basically pre-financed the business. So we have had to generate a lot of interest in our business and our business concept early on. On a very small scale, we have been working the market since 1999. After financing was completed in mid-2004, we increased our efforts as much as we could. Over the last few years we did a number of small pilot projects with customers using assimilated datasets to help customers understand the value and benefits of the imagery to their business. Through those types of demonstrations and a continual marketing and education campaign, we generated considerable interest in RapidEye before its launch and we have many more potential customers lined up.

**MJW:** As you touched on previously, RapidEye was financed almost solely on private funding and didn't have any guaranteed revenue from pre-launch sales agreements. Instead you plan on selling spatial products to end users directly. What was the benefit of taking this business model approach?

**WB:** Initially there was no obvious benefit, because as you can imagine, since we did not have a major

customer as an anchor nor did we have a company in the background with deep pockets to support this venture, raising funds for the project was not easy. When RapidEye was founded, we were a company of about four people with a good idea who needed to find financing. Trying to fund it through predominantly private resources was not an advantageous approach in the beginning. But now that we have been successful, I think our model is truly an advantage because we are truly independent.

We completely own and control our satellites. Unlike others in our business, we don't just have the marketing rights to the data. We also don't have obligations to a major anchor customer, so we don't need to continually negotiate tasking and order requests to ensure that they don't conflict with the anchor customer. So in that respect, I think we are a much more reliable partner for customers, because when we promise something, we should be able to deliver it.

**MJW:** Which users are you selling to?

**WB:** Initially we have focused heavily on the broad agricultural market, from large farmers, to the agro-chemical industry, to food companies, for logistics and purchasing planning. We are also slowly making inroads into the commodity trading market, which is one of the most difficult sectors. In addition, we have targeted various government agencies that have an interest in the agricultural industry.

We have also quickly discovered that forestry is another good potential market for us because their planning, assessing, and monitoring activities closely follow agriculture cycles. Another significant, core capability is change detection — identifying what has changed on earth in fairly frequent intervals. With RapidEye's high revisit frequency, we can give our customers a view of the earth on a monthly, bi-monthly, and potentially even a bi-weekly or weekly basis, depending on cloud cover. Change detection applications are proving to be quite interesting. We are also talking to infrastructure companies, for example, oil companies and electrical utilities. They're interested in our data. Anybody who needs current information quickly is a good target for us.

**MJW:** Given the uncertain economic times at present, does this commercial-sales approach leave RapidEye vulnerable?

**WB:** Aside from selling solutions, we are also selling data, and there is a fairly stable data market out there that we are tapping into so I am confident that we will have good success. But with the current economic times, we have already experienced some reluctance from people to pursue new ideas or new ventures. For example, the sugar cane industry in Brazil, which is a huge industry, was very interested in our data about one year ago, but given the present economy, it has temporarily tabled its interest in acquiring imagery.

But overall I feel very good about our financial position and I'm confident that we will reach our objectives for 2009. In fact, once we have mastered our first year, I think the uniqueness of our product and services will speak for themselves. So I'm not at all concerned about the years to come.

**MJW:** How is progress coming on establishing a distribution network? How many distributors/partners do you have at present? How many network stations?

**WB:** We are progressing well. Our direct sales are going well, particularly since launch. Overnight we went from a "virtual" company with a good idea to a bona fide company with an operational satellite system. That has enabled us to turn the sales tables a bit — rather than only us pursuing potential customers, we now have people asking us to visit and discuss partnerships and sales opportunities. That's very positive.

We have a few distributors lined up and are in active negotiations with several others. We expect to close on those in January and February. Overall we plan to have a network of about 20 to 25 distributors throughout the world.

**MJW:** Despite the high profile of the high-resolution satellites, medium-resolution satellites are still successful. Did that bolster your confidence in developing the RapidEye constellation? How do you think the data will fare?

**WB:** When we started out, there was certainly significant focus on the high-resolution sector. But the high-resolution market targets very specific customers, such as the intelligence and military community. We wanted to move in a different direction and it was a good decision, because soon we will stand alone in this market. Landsat is no longer reliable and I would argue that the Spot medium-resolution satellites are nearly at the end of their lifetime. Without those two, you've almost exhausted the suppliers in this market.

In addition, there's a uniqueness that we offer with our constellation of five satellites. We are probably the first satellite operator that can almost guarantee delivery of useable data. So we feel very good about our position right now. In fact, it almost turned out better than we expected ten years ago.

We expect that we will easily make our forecast of \$20 to \$25 million U.S. in 2009 and hope to actually do significantly better than that. We expect to peak operations in five years to generate between \$150 to \$200 million U.S. in revenue. Those are our goals.

**MJW:** You reportedly have significant interest from insurance companies and agriculture cooperatives. Can you name some of them and explain what attracts them to RapidEye?

**WB:** One of our very early investors who provided us seed money was Vereinigte Hagel, the largest hail insurance company in Germany — they control about 65 percent market share of the agro-insurance industry in Germany. They were a true believer in the RapidEye concept and are now one of our stable customers. We are also working very closely with Munich Re, a major re-insurance company in the country and number two in the world. Due to confidentiality agreements, I am not at liberty to divulge any other customer names, but I can tell you that we are very active in the agro-insurance sectors in Europe and in North America.

**MJW:** How is the imagery of help to their business?

**WB:** We are developing products and solutions in partnership with these customers to ensure that we are delivering the value-added information they need. For example, we helped to create and implement a complete, geospatial-based insurance system for Lithuania. Prior to last year, Lithuania didn't have an agro-insurance system or any way to monitor and manage insurance programs for the agriculture industry. To adequately develop insurance policies, you need to know exactly what crop you are insuring, the exact location of the fields, and the potential damage risks to that particular area from hail or drought or other weather-related events. We helped establish a complete geospatial information system that was operational in 2008, and it will now incorporate RapidEye data. That system now provides authorities with a methodology to identify the geographic location of fields, to monitor those areas regularly, and to support damage assessments.

**MJW:** In a previous interview, you stated that with RapidEye you are focusing on high frequency and reliability, rather than resolution to provide an impetus for new business growth. Where do you see business opportunities? How do you see the mission being able to take satellite imagery into new markets?

**WB:** I believe that the reliability and the currentness of information derived from the underlying data is going to drive this market into all kinds of monitoring and change-detection applications where you're dealing with fairly frequent changes. Agriculture is an obvious one but monitoring infrastructure, such as pipelines and utility lines, is also a potential market. For example, you could use imagery to monitor pipelines, particularly in remote areas, and identify any adverse affects from surrounding activities, such as construction. There will be an increasing demand for current information, even in the consumer markets, as people become aware of what is available.

**MJW:** What is your end goal with RapidEye?

**WB:** Though this is not our end goal, we are hoping to become the Landsat replacement. Our data is very close to the Landsat offering and we have many more features that Landsat did not have. So we are hoping to help fill the void caused by the problems of the current Landsat satellites.

We don't look at ourselves as a satellite operator that just wants to sell data. We see ourselves as a geospatial information provider. We want to supply ready-to-use solutions that customers can readily integrate into their business — that underlying satellite data then is irrelevant to the client. Our approach is similar to the modern-day computer. Historically you had to remember strings of commands to work a computer. Nowadays, you turn on a computer and you start working. That's the idea we have for our business. We want to make it easy and affordable for people to use geo-information. I also believe we'll see significant consolidations in the geospatial industry, particularly in the value-added sector which is highly fragmented. We hope to play a role in this consolidation process.

**MJW:** Practically speaking, however, can you really be an information management provider without the underlying data?

**WB:** You always need data. That's absolutely right. We certainly expect to start working on the next generation of our satellites within a year or two. But in the long-term our main focus will be on geospatial services and solutions; operating satellites is an important necessity but it is not at the core of our business strategy.