CyberSpeed Technologies*

Tim Ennis twisted the throttle on his motorcycle and felt the powerful machine leap forward on Interstate 5 near downtown Seattle. After glancing briefly at the high-resolution LCD screen mounted on his handlebars, he veered into the right lane and prepared to take the exit leading to the University of Washington (UW). Tim smiled. He had conceived of the vision system—the "MotoCam"—that had just helped him navigate traffic safely. Now he was president of the company—CyberSpeed Technologies—that manufactured it.

But as Tim and his MotoCam weaved through traffic, he also felt uneasy. For starters, Ennis worried that CyberSpeed hadn't yet raised the money it needed to make a big push during 2004, and that the company might be vulnerable to better-funded imitators. Furthermore, on a recent trip to Japan, Ennis had glimpsed an international opportunity that was alluring, but might require deviating from CyberSpeed's carefully laid plans for domestic expansion. Engineers from Kawasaki, Japan's fourth largest motorcycle manufacturer, had expressed preliminary interest in partnering with CyberSpeed, potentially adding the MotoCam to Kawasaki cycles as a safety feature. If such a deal came to pass, it might be lucrative, but it could undermine the company's flexibility. And it wasn't obvious to Ennis that Kawasaki was the ideal original equipment manufacturer (OEM) with whom to partner, even if it was the first to express interest in an arrangement. What did seem clear was that the company needed to begin thinking harder about the merits of international opportunities, because they might be presenting themselves sooner than expected.

Pulling into a parking spot on the UW campus, Tim hoped that the meeting he was about to attend would help ease his worries. Ennis had asked a group of talented undergraduates from around the world to recommend a strategy for CyberSpeed that made sense of the opportunities facing the company. In Ennis' mind, one possibility was simply sticking with CyberSpeed's original plan, which emphasized orderly US expansion in three product markets: motorcycles, cars, and commercial vehicles. In each, the company would move from dealers and direct sales channels, to regional and national distributors, and ultimately to OEM arrangements. Other potential plans included adapting its domestic strategy to one or more international markets; abandoning the original strategy and trying instead to strike a major deal with an international OEM like Kawasaki; pursuing domestic and international expansion simultaneously; or some combination of these options

Arriving at the right answer would be tricky because it required considering which were the most attractive product markets, geographies, and channels for CyberSpeed, in both the short- and longer-term. Ennis knew the stakes were high. Simultaneously pursuing the motorcycle, car, and commercial vehicle markets in multiple geographies might be too much for the young company. On the other hand, going too slowly might cause CyberSpeed to dissipate any first-mover advantage it held and make it difficult for the company to achieve its full potential.

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* This case was prepared for the 2004 Global Business Challenge case competition by Allen P. Webb, Senior Editor, *The McKinsey Quarterly,* and Debra Glassman, Senior Lecturer, University of Washington Business School.

THE BIRTH OF CYBERSPEED

It was altogether fitting that the strategy review was taking place at UW. When Tim and his friends Jason Green and Marc Barros won a 2003 business plan competition at UW, they received the funds they needed to get CyberSpeed off the ground and launch its first product: the MotoCam. The product's purpose was to eliminate blind spots for motorcycle riders. Ennis had been an avid motorcycle rider for years and had noticed that in spite of his bike's mirrors, he was frequently unable to see some vehicles that were either directly or diagonally behind him (see Figure 1). The problem was that the mirrors were undersized, susceptible to road vibration that blurred the images they did capture, and often blocked by Ennis' arms and shoulders. In order to verify that he wasn't about to change lanes into another vehicle, Ennis had to turn his head and eyes directly toward the blind spots. Of course, when he took his eyes off the road ahead, he was vulnerable to changes in the road directly in front of him.

Sensing an opportunity, Ennis and two fellow cycling enthusiasts from the University of Washington, Marc Barros and Jason Green, began work in the summer of 2002 on what would become the MotoCam. The final product had two key parts. One was a wide-angle infrared camera that could be easily mounted on the rear of the motorcycle. The other was a four-inch (10 centimeter) liquid crystal display (LCD) screen that attached to the handlebars or windshield of the bike, directly in the rider's range of vision (see Figure 2). A quick-release system for each piece helped riders protect the MotoCam against theft, and easily move the product from one cycle to another. The MotoCam unit connected directly to the motorcycle's battery, so it was never necessary to change or charge batteries. Its mounting brackets were designed to absorb vibrations so the images on the LCD screen were always clear.

The MotoCam worked. When combined with a cycle's existing mirrors (which rolled outward to eliminate peripheral blind spots), the MotoCam reduced total blind spots by roughly 98%. It was no longer necessary for a rider to look behind him before changing lanes; a quick glance at the mirrors and LCD screen told the rider all he needed to know.

Ennis needed capital to bring the MotoCam to market. An opportunity presented itself at the University of Washington Business School, from which Ennis was about to graduate. In the spring of 2003, the school held its annual business plan competition; the winning team could earn thirty thousand dollars or more (http://depts.washington.edu/cte/bplan_comp.shtml). It seemed like a golden opportunity.

Ennis, Green, and Barros entered together. The team had complementary skills. Ennis, who would lead the company, had studied both electromechanical engineering and business. Green, who had spent the previous two years managing million dollar accounts for a Seattle collections firm, would focus on finance and operations. Barros would build on sales and management experience acquired in the retail industry to direct sales and marketing for CyberSpeed.

Over a period of 9 months, Ennis, Green, and Barros spent nearly every waking moment (when they weren't in class, studying, or working at the jobs they held to make ends meet) improving the MotoCam prototype, and developing the business plan that would form the basis for their entry in the UW competition. Along the way, they hit upon a name for the

company: "CyberSpeed," which was intended to evoke the future. In the end, their hard work paid off. The CyberSpeed team finished third in the business plan competition, which brought them $25,000 to launch the company. CyberSpeed was off and running with unflagging energy and enthusiasm. In Ennis' words, "We work hard, and we're very passionate about this. We have a bunch of Type A personalities working 24 hours a day."

BUILDING THE BUSINESS

For the rest of 2003, working without pay, CyberSpeed's management team sought to prove the viability of their business. Rapid market penetration was critical and required attending trade shows and interacting directly with dealers, distributors, and potential customers. This process helped CyberSpeed understand the motorcycle market better, and also led the company to develop a variant on the MotoCam called the RCam. At the same time, the company developed early approaches to manufacturing and distribution. Finally, it brought in the cash it needed to keep the company going—through a combination of sale revenue and borrowing.

The motorcycle market

CyberSpeed initially focused on the US motorcycle market because it was close to home for Ennis and company, large (almost 5 million cycles were on the road in the US), and growing rapidly (Exhibit 1). US riders also made significant purchases of after-market parts and accessories—$3.6 billion in 2003.

"On-highway" (or "street") cycles made up 62% of the total US motorcycle market in 2001. Two segments of the market were particularly interesting to CyberSpeed: the "Cruiser" market and the "Sport" market. Cruisers were large touring bikes and comprised 56% of on-highway cycles. Harley-Davidson manufactured nearly half of the cruisers sold in the US (though only little more than a quarter of all motorcycles sold). Sport bikes were motorcycles with smaller engines that riders could use on city streets or smooth trails, and they accounted for 21% of the market.[1]

During the 1960s and 70s, the "Hell's Angels" motorcycle gang, along with two hippies played by Peter Fonda and Dennis Hopper in the film "Easy Rider," came to epitomize young Harley-Davidson riders to the world. But by 2003, according to *Cruiser* magazine, the average rider of a Harley or other cruiser was a college-educated male, 47 years old, and earning an income of $80,000 per year. The same trend held for other market segments. According to the US National Highway Transportation Safety Administration, motorcycle ownership by the 40-and-over age group increased from 15.1% of the total in 1980 to 43.7% in 1998. Tim Ennis believed that, with more and more executives, doctors, lawyers, and accountants climbing aboard motorcycles, the time was right for the MotoCam. Family men with responsibilities were likely to be worried about safety. In 2002, over 3,200 riders in the US died in motorcycle

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1 *Business Wire*, March 21, 2003.

accidents, and another 65,000 were injured.[2] By eliminating blind spot challenges, the MotoCam could reduce these figures and provide peace of mind to motorcyclists.

When CyberSpeed began test marketing the MotoCam at trade shows, the company discovered another source of demand it hadn't previously considered. Sport and dirt bike riders said they wanted a MotoCam with a recording device built in that would shoot footage of their riding form. Ennis quickly realized that it would be easy to develop a recording-only version of the MotoCam comprising a small camera and portable battery pack. Riders could mount the system on their bike or on their helmet. Because there was no LCD monitor, production costs would be about 20% lower for the recording system. CyberSpeed called this sport-oriented product the "RCam." Honda, which manufactured 28% of all motorcycles sold in the US, was a leader in selling sport and dirt cycles (as well as cruisers).

While CyberSpeed did not have the resources to attack markets outside the US during its first year, several foreign markets were large enough to be very much on Ennis' radar screen for the future. Getting accurate market figures was difficult, but regional figures and the sales of global manufacturers helped paint a picture (Exhibits 2 and 3).

In emerging markets, scooters such as Vespas comprised a bigger share of the market than in developed countries. A big difference was that, in emerging markets, motorcycles were for transportation, not recreation. In value terms, motorcycles with engines under 650cc accounted for 63% of the world market in 2002, while those with engines over 650cc accounted for 37%. China had the largest market by far in 2002, with sales of almost 10 million motorcycles and an annual growth rate of over 10%.[3] One study forecast that in 2007 medium and heavyweight motorcycles would account for 6% of the world market, light motorcycles 44%, and scooters, mopeds and motorbikes 50% (www.freedoniagroup.com). Both the MotoCam and RCam could be used with no modifications on the scooters favored in emerging markets, but was this an opportunity worth considering?

Several major OEMs, including Honda, Suzuki, and Yamaha, were focusing on emerging Asian markets such as China and India. Price competition was intense in these markets, and a number of manufacturers had moved some of their production to low-cost sites like China and Thailand in response.

Operations

Tim viewed CyberSpeed as a company that developed products, not as a manufacturer. In its early days, though, CyberSpeed's management team took care of production in-house. At first, Tim and his team needed eight hours to produce a single MotoCam. By the end of 2003, they had cut this to two hours per unit. At that rate, CyberSpeed could turn out roughly 200 systems per month. The cost per system was about $300.

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2 "Motor Vehicle Traffic Crash Injury and Fatality Estimates: 2002 Early Assessment," National Highway Transportation Safety Administration, Technical Report DOT HS 809 586, May 2003.

3 "Global – Motorcycle Manufacturers," Datamonitor Industry Market Research, November 1, 2003.

A subcontractor in Redmond, Washington was ready to begin production when demand exceeded the amount CyberSpeed could produce in-house. Ennis and his team were anxious to engage the contractor because his operating costs would be lower by at least $75 per unit, and he was willing to buy components and hold them in inventory. This would simplify the company's cash management and also reduce clutter in its offices.

CyberSpeed believed that if volume increased to 1,000 per month, it would be possible to find a Mexican plant willing to turn out MotoCams. Mexican manufacturing would allow the company to cut it per unit costs by another $25 or so per unit (though shipping costs might be a bit higher). One of CyberSpeed's directors believed if volumes reached roughly 10,000 per month, it would be feasible to shift production to China. Here, costs might drop an additional 25 percent, though shipping costs back to North America would definitely be higher.

Distribution

CyberSpeed's first push was toward motorcycle retailers in the Pacific Northwest region of the United States. The company started with five in the Seattle area, and sought to increase this to 100 by late 2004 or early 2005. CyberSpeed built awareness of the MotoCam and RCam by attending annual trade shows such as the Seattle International Motorcycle Show, the Vancouver Motorcycle Show, and the Dealer Expo held in Indianapolis. Retailers generally took a 30% cut of revenue.

The company also targeted distributors, who would play a middleman role between CyberSpeed and retailers. Striking a deal with one of these players was enticing because it could put CyberSpeed's products in the hands of many more dealers than the company could easily reach on its own. However, this reach came at a price: distributors demanded 30% margins on sales to retailers, who still took their cut on the transaction. CyberSpeed's first distributor arrangement was with Western Power Sports, Inc., which focused on the west coast of the US. By the end of 2004, CyberSpeed hoped to be reaching national distributors.

Finally, CyberSpeed could sell directly. During the company's early days, some consumers bought products from CyberSpeed management after seeing the product at trade shows. CyberSpeed also operated a web-site, though Ennis questioned whether this would ever be a major source of sales because customers rarely became excited about the MotoCam until they saw it in action.

Financing and early results

The $25,000 won by the CyberSpeed management team at the UW business plan competition helped launch the company, but wasn't enough to get it fully operational. Over the course of 2003, CyberSpeed raised roughly $25,000 more, primarily by taking on debt—some through Small Business Administration loans, some through credit lines cosigned by family members, and some on their personal credit cards (Exhibit 4).

By the end of 2003, CyberSpeed was also generating cash by selling MotoCams and RCams. The list price of a MotoCam was $600, while an RCam retailed for $400. CyberSpeed sold 120 units during 2003, generating revenue of $52,000, of which it had collected roughly $42,000 by

year-end (Exhibit 5). About two-thirds of the sales were of MotoCams. Ten percent were direct sales, and 90 percent took place through dealers and regional distributors.

At the beginning of 2004, Ennis thought CyberSpeed needed about $50,000 more to operate successfully for the year. This level of funding would enable the company to produce sufficient volume to get the attention of national distributors.

BEYOND MOTORCYCLES

It wasn't long before Ennis realized the MotoCam could help drivers of other vehicles. At a show in 2003, a winter enthusiast approached him about adapting the company's products for use on a snowmobile. Later that day, Ennis was asked whether the MotoCam or RCam could be mounted on a jet ski. The MotoCam was an all-weather product, so Ennis thought it could work well on either platform, provided that it wasn't subjected to frequent roll-overs or other types of impact; these might damage the product. In 2003 CyberSpeed was too busy rolling out the MotoCam and RCam to the motorcycle market to spend much time researching the snowmobile and jet ski opportunities.

While both remained intriguing to Ennis, he set his sights on two other, much bigger markets: passenger and commercial vehicles. The fatality rate for passenger vehicles was much lower than for motorcycles (Exhibit 6), but there were many more passenger vehicles on the road. And safety was a particularly critical issue for commercial vehicles.

Passenger vehicles

Blind spots had always been an issue for passenger vehicles, but the rapid growth during the 1990s of sport utility vehicles (SUVs) in developed markets like the US exacerbated matters considerably (Exhibit 1).[4] While the blind spot for a typical car extended about 3-5 meters behind the vehicle, for an SUV it might reach 10-15 meters in length. These larger blind spots didn't just pose hazards on highways. They also contributed to "backing accidents," in which drivers hit objects that were impossible to see, though directly behind them. During 2001, backing accidents led to 1000 non-passenger deaths in the US.

CyberSpeed could adapt its products to traditional sedans, as well as SUVs and other light trucks, at negligible cost. The camera fit flush into the bumper or rear door, while the LCD screen would mount on the windshield. The company hoped it could sell the MotoCam for a slightly higher price—perhaps $670—because it represented a smaller share of the cost of a car or truck than it would for a motorcycle.

Both the new and the used car and truck markets represented attractive opportunities for CyberSpeed. More than 200 million cars and light trucks were on the roads in the US alone (Exhibit 7). One way to reach customers was through car dealers, more than 20,000 of which existed in the US. Some carried new vehicles, some used ones, and some both. Another possibility was audio/video retailers such as Best Buy, Radio Shack, or Circuit City. These

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[4] Government agencies generally define SUVs, minivans and pickup trucks to be "Light Trucks" rather than passenger cars. Sometimes statistics for light trucks are reported in the category of "Commercial Vehicles."

players sold "after-market" audio and video accessories for cars; in the US such sales were roughly $3.5 billion per year by 2003. Once CyberSpeed had penetrated a few audio/video retailers, it hoped to increase its market presence by establishing arrangements with warehouse distributors who, as in the motorcycle market, would take a cut of revenue.

Commercial vehicles

While commercial vehicles represented just three percent of total vehicles on the road in the United States, they were involved in accidents causing more than eight percent of all US traffic deaths. The size of commercial vehicles and their blind spots was an important contributor to this disproportionate share of road fatalities. As with cars and light trucks, the MotoCam's LCD could mount on the windshield of a commercial vehicle. The infrared camera fit flush in the bumper, below the bumper, or above the rear door.

Corporations owned 90 percent of all commercial vehicles, and CyberSpeed hoped to sell MotoCams by appealing to their self-interest. The company estimated the average commercial vehicle accident cost more than $10,000 when it only caused property damage; $200,000 when it caused an injury; and $3 million when it caused a fatality (Exhibit 8). Given these potential liabilities, and the high prices (ranging from $50,000 to $100,000) of commercial vehicles, CyberSpeed believed a substantial market existed for the MotoCam, and that $700 was the right retail price.

CyberSpeed thought it could best reach companies operating small to medium-sized fleets of trucks (less than about 500) through commercial vehicle dealers. There were 2,200 commercial vehicle dealerships in the US, with after-market parts sales of roughly $13 billion. In addition, CyberSpeed thought it could use direct sales efforts to target corporations with larger fleets, such as Costco, Ryder, Penske, Budweiser, and Waste Management.

A TRIP TO JAPAN

In late October and early November of 2003, Ennis and Jason Green got an opportunity to meet with representatives of the motor vehicle industry in Japan. Doctor Chiaki Nagai, a government official in Hyogo, part of the Kobe region, arranged the trip for them, because he thought partnership with CyberSpeed might be useful for some of the area's motorcycle OEMs and suppliers. Nagai's initial exposure to CyberSpeed had come during the UW Business Plan Competition earlier in 2003. He had awarded them the Hyogo Governor's Award, which recognized the business venture most likely to succeed overseas. This award funded the trip to Japan. Doctor Nagai arranged meetings with Japanese OEMs, local venture capitalists, and other regional suppliers. While they were in Japan, Ennis and Green also planned to visit the Tokyo Motor Show, where every motorcycle and car manufacturer in the world was represented.

The first meeting was with three senior engineers at Kawasaki's Akashi plant, just outside Kobe. Ennis began with his standard overview presentation on the product, but it didn't enthrall his audience. The engineers spent a considerable amount of time objecting to CyberSpeed's statistics on blind spots and accidents. But then, "I took out a prototype that said, 'Kawasaki,' and they fell over backwards." Ennis mounted it on a nearby bike, and the

conversation shifted to ways in which Kawasaki might work with CyberSpeed in the US (a major market for the company). The engineers took Ennis' business plan and agreed to pass it on to the key decision makers at Kawasaki's Southern California sales office and Nebraska manufacturing facility. Ennis was elated. "The ideal for us," he said, "would be if [Kawasaki] built this on every bike as a standard safety feature."

Kawasaki was only the fourth largest motorcycle manufacturer in Japan, but it did have a sizable presence in the US and several other international markets. And based on the engineers' reactions, Ennis wondered if the company might be more interested in striking a deal than would bigger, stronger players. As they talked to the engineers, Ennis and Green realized that Kawasaki placed a major emphasis on growth outside Japan, particularly in Europe, where its market share was roughly 10 percent (Exhibit 9). This was hardly surprising. Japanese domestic sales had been shrinking in recent years, because, unlike the US, Japan had never taken off as a major market for recreational motorcycle riders. So, as the country had become richer over the years and consumers increasingly bought automobiles rather than motorcycles for basic transportation, there were few sources of growth to fuel the Japanese motorcycle market.

Nagai also arranged for CyberSpeed to appear at the monthly meeting of a group of Kobe venture capitalists. Ennis and Green were the only Americans there, and the only ones with a technology-oriented business plan. A representative from an electronics company specializing in automotive products approached them. He said he wanted to carry the MotoCam, and he also suggested that down the road he might like to be a wholesale supplier to companies like Honda and Toyota. Another meeting was with Global Engineering, the company that helped Toyota developed its Prius hybrid vehicle. The CyberSpeed managers presented to Global Engineering's president.

The following day, Ennis and Green took the bullet train to Tokyo where they attended the annual Tokyo Motor Show. They quickly learned just how concerned the Japanese were about blind spot safety. "Concept" (prototype) cars and motorcycles with electronic vision systems abounded at the show, including some with cameras embedded in the side mirrors. Suzuki, Honda, and Yamaha all had concept cycles or scooters with well-designed vision systems on them. Ennis was surprised to see so many vision systems at the motor show. He wondered if this meant it would never be possible to sell directly to a Japanese original equipment manufacturer (OEM) like Honda or Suzuki. Clearly, a number of suppliers had or were developing cameras and sensors to reduce blind spots.

On the other hand, none were yet available for purchase and it seemed that the OEMs were still looking for the supplier that could best help them deliver vision system technology. There was no doubt in Ennis' mind that "this market is poised for a vision system. If we had a good contact, we could sell MotoCams by the truckload tomorrow [in the Japanese after-market]." Yet he also recognized that, "we don't know how to get it over there, who to go with first, how to get it into shops. We have to spend a lot of time researching." Building a strong retail network to enable after-market sales seemed like a critical first step.

CHOICES AND CHALLENGES

On the flight home to Seattle, Ennis couldn't sleep. It wasn't just jet lag. He also was thinking about the strategic questions that the Japanese trip had raised. He pulled a pad of paper from his briefcase and began summarizing several critical issues—pertaining to markets, competitors, and channels—with which CyberSpeed would be wrestling in the months ahead.

Market choices

CyberSpeed had a product that appealed to at least three broad markets—motorcycles, passenger vehicles, and commercial vehicles—each with sub-segments of its own. In the US alone, each represented a major opportunity, and Ennis wondered how to prioritize them. In addition, the trip to Japan underscored the potential in international markets (see Exhibit 10). Talking with Japanese firms was just a start. CyberSpeed had a contact who could arrange meetings with German car and truck manufacturers, and the company also was considering opportunities in well-developed motorcycle markets such as Italy. Dealers in Canada had already contacted CyberSpeed. Ennis also thought about emerging markets, and told a UW professor upon his return, "We would love to tackle a big scooter market like India or the Mideast, but we don't have the resources." Exciting as the international opportunities were, Ennis worried that, "It would stretch us too much to think about too many places overseas."

Competitors

The concept motorcycles and cars at the Tokyo Motor Show had emphasized the speed with which other firms could make inroads into the market for rear vision systems. Ennis thought about the competition in two ways. First, there were existing players, who were more present in some segments than others. In the motorcycle market, for example, there were no companies selling electronic rear vision systems in early 2004. (The only real alternative available to consumers was the standard conventional mirror, supplemented with parabolic mirrors that reduced blind spot areas.) But the motorcycle OEMs were clearly thinking about developing their own vision systems or incorporating systems designed by suppliers.

Car and commercial vehicle customers, on the other hand, already had some choices. Many of the automotive suppliers were large electronics companies with significant research and development budgets and long-term relationships with major OEMs. Exhibits 11 and 12 review some of CyberSpeed's major competitors.

In addition to existing competitors, there were a variety of players—OEMs, suppliers, and consumer electronics companies—with the potential to enter the market. The big OEMs, with their deep pockets and extensive research and development departments, were of particular concern to Ennis and his managers.

CyberSpeed hoped to distance itself from both new and existing competitors in two ways. First, it had filed a patent in order to protect its core camera/LCD screen technology from imitation. Second, CyberSpeed planned a variety of product enhancements to maintain its lead over competitors. For example, during 2004 the company planned to introduce new transflective technology to enhance the performance of its display screen in extreme lighting

conditions, an LCD display that was integrated into the rear view mirror of passenger vehicles, and a six-inch (as opposed to the standard four-inch) display for commercial vehicles.

Channel and partner choices

In all of its markets, CyberSpeed could sell to OEMs who might install the product as a standard feature, to distributors who would help CyberSpeed reach a variety of retailers (while taking a cut for themselves), to dealers and retailers, or directly to customers. The economics of each looked somewhat different (Exhibit 13). The farther upstream CyberSpeed sold its product, the greater its potential volume—but the lower its profit margins would be. By the spring of 2004, CyberSpeed had worked out a 12-month expansion plan utilizing a variety of channels (Exhibit 14)

Ennis and his team had always thought an attractive exit strategy might be to sell out to an OEM after several years of operation. The Kawasaki meeting made him wonder whether it would be possible to establish a partnership or sell the company sooner. He anticipated that most OEM partners would seek exclusivity agreements in their core geography, which would naturally limit CyberSpeed's market potential. On the other hand, a partnership would allow the company to ramp up production rapidly while retaining control of operations. It was less clear what long-term role Ennis and his team would have if an OEM—or even another electronics manufacturer interested in CyberSpeed's technology—bought the company outright. Nonetheless, Ennis recognized that he needed to decide what might be a fair price for the company in case a buyer approached CyberSpeed, and even wondered under what circumstances it would make sense to shop the company to potential bidders.[5] CyberSpeed had developed a set of sales and cash flow projections for the years 2004-2006 (Exhibits 15 and 16), and Ennis believed these forecasts would provide guidance.

All these issues were on Ennis' mind as the students entered the room. It was very quiet. As Ennis looked at Barros and Green, he reflected on the previous 18 months. He was proud of the company's accomplishments to date, and also curious about what the next year or two might hold. Ennis hoped today's meeting would begin pointing the way.

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[5] Ennis had recently learned from a former UW classmate that most bankers used a discount rate of 15% when valuing companies in the after-market parts industry.

Exhibit 1
US SALES OF NEW VEHICLES (UNITS, 000'S)

Year	Motorcycles	Cars	Light Trucks
1995	309	8,687	6,089
1996	330	8,527	6,521
1997	356	8,273	6,797
1998	432	8,142	7,297
1999	546	8,697	8,072
2000	710	8,852	8,387
2001	850	8.422	8,607
2002	936	8,102	8,708
2003	996	7,615	9,025

Sources: U.S. Bureau of Economic Analysis, Department of Commerce; "National Transportation Statistics 2003," Bureau of Transportation Statistics; Motorcycle Industry Council

Exhibit 2
2002 SALES AND US MARKET SHARES
OF LEADING MOTORCYCLE MAKERS

Manufacturer	Country of headquarters	Units sold in 2002	Market share
Honda	Japan	236,035	28.49
Harley-Davidson	U.S.	210,243	25.38
Yamaha	Japan	149,832	18.09
Suzuki	Japan	96,825	11.69
Kawasaki	Japan	80,482	9.71
KTM	Austria	16,004	1.93
BMW	Germany	13,232	1.60
Triumph	U.K.	5,743	0.69
Ducati	Italy	5,681	0.69
Buell	U.S.	5,543	0.67
Indian	U.S.	3,800	0.46
Polaris/Victory	U.S.	3,034	0.37
Aprilia	Italy	1,822	0.22
MZ	Germany	209	0.03
Total		828,485	100.00

Source: Dealernews, June 2003.
Note: Excludes scooter sales.

Exhibit 3
2002 GLOBAL MOTORCYCLE MARKET
% OF TOTAL SALES BY VALUE

Region	Share of Global Sales
Asia Pacific	50.5%
United States	21.1
Europe	20.4
Canada	7.0
Other	1.0

Source: Datamonitor Industry Market Research, November 1, 2003

Exhibit 4
CYBERSPEED STATEMENT OF CASH FLOWS
FOR YEAR ENDED DECEMBER 31, 2003

OPERATING ACTIVITIES	
Cash collections from sales	$42,380
Cash paid to suppliers	(61,419)
Cash paid to employees	0
Cash paid for selling activities	(22,987)
Cash paid for interest and taxes	123
Net cash increase (decrease) from operating activities	(41,902)
INVESTING ACTIVITIES	
Purchase of equipment	(4,716)
Purchase of intangibles	(2,500)
Net cash increase (decrease) from operating activities	(7,216)
FINANCING ACTIVITIES	
Proceeds from issuing equity	18,595
Proceeds from issuing debt	32,090
Principal payments on long-term debt	0
Net cash increase (decrease) from financing activities	50,685
Increase (decrease) in cash balance	1,567
Beginning cash balance (January 1, 2003)	3,338
Ending cash balance (December 31, 2003)	4,905

Exhibit 5
CYBERSPEED INCOME STATEMENT
FOR YEAR ENDED DECEMBER 31, 2003

Revenue	
Gross sales	$52,588
Less: Returns and Allowances	0
Net Sales	52,588
Cost of Goods Sold	(30,783)
Gross Profit (Loss)	21,805
Expenses	
Subcontracting	(6,162)
Compensation	0
Insurance	0
Depreciation	0
Amortization	0
Selling and Advertising	(12,855)
Research and Development	(2,741)
General and Administration	(7,391)
Total Expenses	(29,149)
Earnings Before Interest and Taxes	(7,343)
Interest	(890)
State Taxes	(88)
Income Tax	1,101
Total Interest and Taxes	123
Net Income (Loss)	(7,220)

Exhibit 6
FATALITY RATES BY VEHICLE TYPE IN THE U.S.

Fatality rate per 100,000 registered vehicles	Motorcycles	Passenger Cars	Light Trucks
1991	67.17	18.15	16.12
2001	65.20	15.79	14.84

Source: "Traffic Safety Facts 2002," National Highway Traffic Safety Administration

Exhibit 7
NUMBER OF REGISTERED VEHICLES IN THE US (millions)

Year	Motorcycles	Passenger Cars	Light Trucks
1988	4.58	121.52	44.60
1989	4.42	122.76	47.13
1990	4.26	123.28	49.92
1991	4.18	123.33	52.06
1992	4.07	120.35	53.84
1993	3.98	121.06	56.57
1994	3.76	122.0	59.49
1995	3.90	123.24	62.52
1996	3.87	124.61	65.44
1997	3.83	124.67	67.29
1998	3.88	125.97	69.78
1999	4.15	126.87	73.14
2000	4.35	127.72	76.19
2001	4.90	128.71	79.01
2002	Not available	129.91	82.09

Source: "Traffic Safety Facts 2002," National Highway Traffic Safety Administration

Exhibit 8
COMMERCIAL VEHICLE ACCIDENT COSTS IN US

Type of Cost	Property Only Damage	Injury Only Accident	Fatality Accident
Medical	$182	$8,448	$28,429
Emergency services	70	343	1,757
Property damage	2,764	6,409	17,975
Lost productivity	7,565	65,739	969,247
Monetized quality of life	718	136,066	2,401,793
TOTAL	$11,299	$217,005	$3,419,202

Source: reported in CyberSpeed business plan

Exhibit 9
1997 MARKET SHARES FOR
HEAVYWEIGHT MOTORCYCLES (651 CC AND ABOVE) BY REGION

	Global	North America	Europe	Asia/Pacific
Harley-Davidson	24.1%	48.3	6.1	16.5
Honda	23.0	18.6	25.0	30.1
Suzuki	13.6	10.5	17.2	8.7
Yamaha	12.3	5.8	17.2	13.9
Kawasaki	11.7	10.6	10.7	20.2
BMW	6.6	2.4	12.6	4.0
Other	8.7	3.8	11.2	6.6

Source: "The Heavyweight Motorcycle Industry – An Update," The Robinson-Humphrey Company, LLC, March 6, 1998 [accessed through Investext]

Exhibit 10
TWO-WHEELED MOTOR VEHICLES IN USE IN 2001

Region	Number (000s)
Africa and Middle East	1059.1
Asia Pacific	116,560.0
Australasia	354.6
Eastern Europe	5,379.2
Latin America	1,642.8
North America	3,973.2
Western Europe	16,995.7

Sources: Compiled from Euromonitor, "International Marketing Data and Statistics 2003" and "European Marketing Data and Statistics 2003"

Exhibit 11
PASSENGER CAR COMPETITION

Comparison of Features in Automobile Rear Vision Systems

	ASA	Hitch Cam	Accele	Sony	MotoCam
Infrared Camera	No	No	No	No	Yes
Multi-Camera System	Yes	No	No	No	Yes
Flush Mount Camera	No	No	No	No	Yes
Color Display	Yes	Yes	Yes	Yes	Yes
Multiple Screen Opt.	Yes	No	Yes	Yes	No
Waterproof Connectors	No	No	No	No	Yes
Anti-Vibration Mounts	No	No	No	No	Yes
Ability to Record	No	No	No	No	Yes
Retail Sales	Yes	Yes	Yes	Yes	Yes
Price	$499-799	$999.99	$499-999	$399-799	$399-679

Descriptions of selected competitors

ASA Electronics (AudioVox)
ASA Electronics (AudioVox) owned over 50 percent of the mobile audio and video segment of the market and offered several rear vision solutions. In the automotive market AudioVox provided a variety of screen options with square cameras. AudioVox was a low-price solution. The company had struggled to establish strong consumer demand in retail channels for its rear vision systems despite successes in the mobile audio, video, and navigation segments.

Hitch Cam
Hitch Cam was a small California company that had achieved national notoriety for its stylish rear vision system that could be quickly installed into any vehicle trailer hitch. The core customer base was the Hummer market. Hitch Cam's small margins made it difficult to sell through a distribution network, and the company had experienced slow sales due to high prices and its niche target market.

AcceleVision
AcceleVision was a manufacturer of electronics components for the automotive market. Its offerings included rear vision systems, cameras, mobile video applications, and several automotive electronics products. The company sold directly to specialty shops and small retailers. The company produced a well-known flush camera that could be installed easily into the bumper of any vehicle in a matter of minutes and was preferred by custom car shops for that reason.

Sony
Sony had traditionally been a trend-setter in after-market audio accessories. To date, the company had made little effort to offer rear vision systems, but it clearly had the means and technology to develop a variety of different solutions.

Source: CyberSpeed business plan

Exhibit 12
COMMERCIAL VEHICLE COMPETITION

Comparison of Features in Commercial Vehicle Rear Vision Systems

	Intec Video	Safety Vision	ASA	MotoCam
Camera Resolution	350 Scan Lines	380 Scan Lines	380 Scan Lines	380 Scan Lines
Infrared Camera	No	Yes	No	Yes
Multi-Camera System	No	Yes	Yes	Yes
Color Display	No	Yes	Yes	Yes
Waterproof Connectors	Yes	No	Yes	Yes
Waterproof System	No	No	No	Yes
Anti-Vibration Mounts	No	No	No	Yes
Retail Sales	No	No	No	Yes
Price	$1,850	$500-750	$899	$450-700

Descriptions of selected competitors

Intec Video
Intec Video Systems, the originator of commercial vehicle rear vision, had been manufacturing vehicle safety cameras with similar design and technology for over 20 years. Intec focused solely in the garbage and heavy trucking markets and sold directly to corporate customers or through select truck body manufacturers. During the previous five years, Intec had encountered significant problems with the quality of its systems, especially with waterproofing.

Safety Vision
Safety Vision was a manufacturer and distributor of mobile video surveillance technology. The company focused on rear vision systems and on-board video surveillance in the bus and commercial vehicle industries. The company distributed Clarion rear vision systems and was fairly successful. Safety Vision's relatively low prices and higher service levels were keys to the company's growth.

ASA Electronics (AudioVox)
ASA Electronics provided its Voyager Observation System to the commercial vehicle market. ASA was the market leader in mobile video systems. Its strength was in re-engineering American made products in Asia and bringing them back to the US market at significantly lower prices. ASA focused on large corporate accounts and won its first major customer, UPS, in 2002. The company did not have strong distribution channels and struggled to create brand recognition in the commercial vehicle market.

Source: CyberSpeed business plan

Exhibit 13
MOTOCAM PRICES

Market	Suggested Retail Price	Dealer Price	Distributor Price	OEM Price	Cost of Goods Sold
Motorcycle	$599.99	419.99	300,00	240.00	215.00
Automobile	$669.99	468.99	335.00	268.00	220.00
Trucks	$699.99	489.99	350.00	280.00	225.00

Source: CyberSpeed

Exhibit 14
SHORT-TERM SALES EXPANSION PLAN

	March, 2004	March, 2005
Retailers		
MOTORCYCLES		
Dealers	75	100
CARS		
Car audio shops in:		
Washington	3	15
Oregon	3	15
California	3	15
Consumer electronics partners	0	Partner with a dealer that has 30 or more stores (e.g., Car Toys)
COMMERCIAL VEHICLES		
Commercial vehicle dealers	3	9
Auto dealers selling commercial vehicles	0	12
OEMs		
American Eagle	Commercial vehicles only	Commercial vehicles and motorcycles
Kawasaki	In negotiation	
H&H Trailers	In negotiation	
Sundowner Horse Trailers	In negotiation	
Others to be determined		Hope to add 2 more in 2005

Source: CyberSpeed business plan

Exhibit 15
CYBERSPEED'S SALES FORECASTS

Date	MotoCam Units	Revenues
2003 (actual)	120	$52,000
2004 Q1	248	98,637
2004 Q2	699	233,802
2004 Q3	1118	376,359
2004 Q4	1231	420,091
2005 Q1	1410	495,381
2005 Q2	2175	706,991
2005 Q3	3152	948,905
2005 Q4	4200	1,172,095
2006 Q1	5500	1,480,576
2006 Q2	7100	1,883,569
2006 Q3	8600	2,247,788
2006 Q4	10120	2,628,282

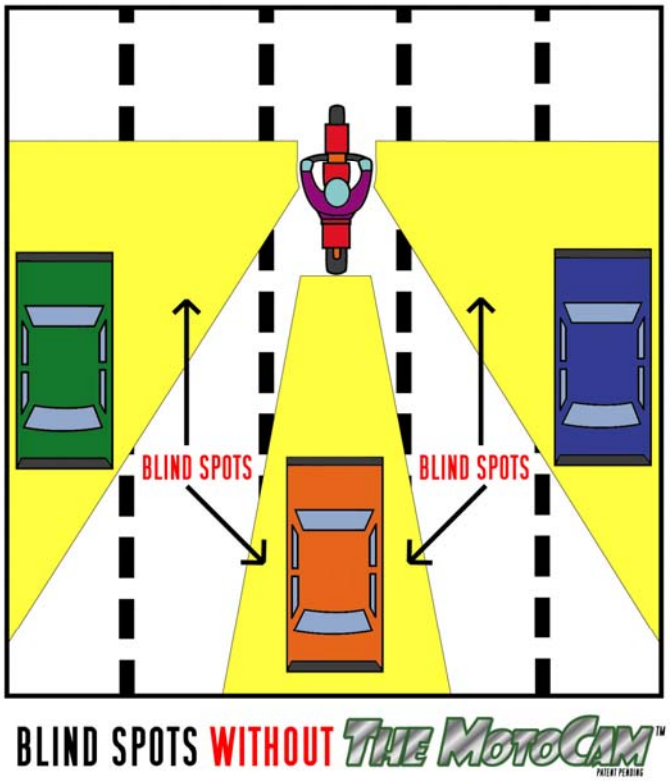
Source: CyberSpeed business plan

Exhibit 16
PROJECTED CASH FLOWS, 2004-2006

	2004	2005	2006
OPERATING ACTIVITIES			
Cash collections from sales	$1,024,360	3,164,550	8,008,149
Cash paid to suppliers	(523,118)	(1,720,958)	(4,720,994)
Cash paid to employees	(96,905)	(253,999)	(476,833)
Cash paid for selling activities	(231,068)	(808,906)	(1,902,576)
Cash paid for interest and taxes	(20,728)	(100,215)	(179,793)
Net cash increase (decrease) from operating activities	152,542	280,472	727,952
INVESTING ACTIVITIES			
Purchase of equipment	(9,000)	(2,000)	0
Purchase of intangibles	(27,500)	(20,000)	(40,000)
Net cash increase (decrease) from operating activities	(36,500)	(22,000)	(40,000)
FINANCING ACTIVITIES			
Proceeds from issuing equity	0	0	0
Proceeds from issuing debt	74,645	0	0
Principal payments on long-term debt	(2,000)	(19,000)	(24,000)
Net cash increase (decrease) from financing activities	72,645	(19,000)	(24,000)
Increase (decrease) in cash balance	188,687	239,472	663,952
Beginning cash balance (January 1)	3,659	183,902	423,373
Ending cash balance (December 31)	192,347	423,373	1,087,325

Source: as presented in the CyberSpeed business plan

Figure 1
MOTORCYCLE BLIND SPOTS WITHOUT THE MOTOCAM



Source: CyberSpeed Technologies

Figure 2
THE MOTOCAM

Sources: CyberSpeed Technologies, www.themotocam.com, and "MotoCam helps bikers keep an eye on the rear," by Christine Frey, Seattle Post-Intelligencer, June 11, 2003.