# AIRBAGFORBIKE BUSINESS PLAN

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# **Executive Summary**

- Road safety has always been important for motorists, and the testing and innovation has gone from strength to strength for motor vehicles. However, the safety improvements (and in particular the use of air bags) for motorcycles has stalled. Put simply, motorcycle manufacturers have ignored the issue due to the complexities around automatic deployment. And with 4,295 deaths from motorcycle accidents every year more needs to be done.
- AirbagForBike is an innovative new safety invention for motorcycles. The product is designed to make riding a motorcycle as safe as riding a car. It
  works by an airbag built into the seat of the motorcycle and secured to the rider. In case of an accident, the rider is ejected with the seat and the
  airbag forms a cocoon around him. Unlike competitors that have built airbags into motorcycles that only cover frontal accidents, AirbagForBike has
  designed an airbag to protect the passenger from all sides.
- The product has a pending patent (US and international) with a strong claim that prevents other entrants to the market. Competitors have traditionally focused on jackets rather than air bags that are a component of the bike. Therefore, the patent and the research and development that will be invested into the idea will be a strong deterrent for future market entrants.
- Behind the AirbagForBike is entrepreneur, Andras Fenyves. Andras passion for the project is born out of a history of entrepreneurship and new venture creation. After seeing the injuries that can occur on motorcycles after running a successful medical practice, Andras is determined to find a team to bring the idea to light. In addition to his expertise, Andras will seek others to contribute ideas, investment and engineering expertise.
- Funding is required to help fund the cost of developing a prototype of the air bag. Once a concept model has been successfully manufactured a second round of funding will help create a manufacturing facility / plan, a distribution network and an integrated marketing strategy. \$300,000 is sought in return for equity in the company.

## **Business Vision**

AirbagForBike is a start-up based in New York.

Our mission is to make motorcycling as safe as driving a car. Unfortunately, due to the complexities of the motorcycle riding position, this has become incredibly difficult to achieve. While upper body armor and air bag jackets have emerged over the past few years. No suitable full body solutions exist to combat the number of injuries incurred by motorcycle riders each year. This gap in the market can be solved with our revolutionary air bag concept (described in more detail below); marking huge potential in safety and profit.

AirbagForBike has set the following demanding objectives, to guide their operations and measure their success:

- 1. Create a working prototype;
- 2. Undertake extensive safety testing on the prototype and seek accreditations or approvals as required; and
- 3. Distribute the product to mass market or license the rights to interested parties.

## The Product

We have developed a successful concept and design of a motorcycle safety device that we expect will revolutionize motorcycle riding safety; saving millions from serious accidents and death, and allowing millions of new riders previously hesitant to sit on a motorcycle because of safety, to enjoy motorcycling. Our concept borrows form motor vehicle airbag systems and sees the airbag deploy when the rider is ejected during a serious crash.

The airbag deploys only if the motorcycle is traveling at a certain speed and various motion sensors, gyroscopes detect a sudden deceleration, acceleration (if hit from behind) or loss of balance that would not be correctable by a human.

The belt system secures the ejecting seat to the rider and also secures the airbags wrapped around the rider. It automatically unfastens in a crash that is not severe enough to warrant a system deployment (to allow the rider to jump off the bike) or if the rider tries to stand up from the bike while it is stopped.

## The Market

With clear demand for safer motorcycling and many companies attempting to solve the problem with various types of airbags, the market seems wide open as there hasn't been any major successful standard airbag. In addition, the problem with most safety gear being designed is that problem of it being built into a jacket. Most motorcycles riders do not want to be burdened by having to carry the same jacket to ride, usually the jacket is not the type they want to wear (e.g. style, comfort, convenience).

The Department of Transport has this month just issued its latest findings on motorcycles deaths and related injuries in the U.S. and all in all it makes pretty depressing reading.

Figures and research come from the DoT's National Highway Traffic Safety Administration (NHTSA), which has been tracking this information since 1982 and its latest report for 2011 shows that 4,612 motorcyclists died that year in the U.S. This according to NHTSA is a 2% increase in rider fatalities over 2010. That overall figure of 4,612 deaths also includes other types of bikes (scooters, three wheelers, mopeds, mini bikes, pocket bikes and off-roaders) so the actual two-wheel motorcycle fatality number for 2011 is 4323.

What's not clear in NHTSA's findings is if the number of motorcycle riders actually grew too from 2010 to 2011. A total of 8,009,503 'motorcycles' (including scooters, trikes etc) were registered in 2010 but this increased by nearly 5% in 2011 to 8,437,502.

The good news from the report, if you can call it that, was that injuries from crashes involving motorcycles were down in 2011 with 81,000 recorded compared to 82,000 the previous year.

Motorcycles apparently made up 3% of all registered road vehicles in the U.S. for 2011 with NHTSA including everything on two-wheels and three-wheels in this category. But 4,323 (94%) of 4,612 fatal bike crashes in 2011 were riders of two-wheeled motorcycles. Some key statistics in the industry include:

- According to the findings 2,449 (49%) of all fatal motorcycle crashes were the result of a bike colliding with another vehicle. Only 6% of deaths in 2011 were due to a bike being hit from behind.

- More than 42% (1,998) of motorcyclists in 2011 were killed in two vehicle accident and 38% (757) of these were the result of another vehicle turning left in front of the motorcycle that was either going straight, passing or overtaking another vehicle.
- NHTSA claims that of all motorcycle deaths in 2011, 35% (1,614) were the direct result of the rider speeding. This according to its research and data is a substantially higher death toll than any other vehicle type on the roads 22% for cars, 19 % for trucks and 8% for large trucks.
- Plus, based upon the average number of miles traveled by every type of vehicle on the road, in 2011 as a rider you were 30 times more likely than a passenger car occupant to die in a motor vehicle traffic crash and five times more likely to be injured while out riding a motorcycle.
- Riders of bikes with 501-1000cc engines accounted for 39% of all 2011 fatalities and also represented the highest increase of overall fatalities (25%) from when NHTSA first started recording this information in 2002.
- Older motorcyclists (40 years and up) account for 75% of all motorcyclists' deaths over this 10- year period with 42-years-old now the average age of a motorcycle rider killed on the U.S. roads in a traffic crash.
- However, 22% of riders involved in fatal crashes in 2011 did not have a valid motorcycle license and were 1.4 times more likely than a car driver to have a previous license suspension or revocation.

The really scary part of all these statistics is that 42% of motorcycle riders who died in single vehicle crashes in the U.S. in 2011 had blood alcohol levels (BAC) of 0.8g/dL or higher. The 40- 44 year-old age group accounted for 38% of these deaths, while the 45-49 and 35-39 age groups were each at 37%. NHTSA figures also show that in 2011, motorcycles riders killed at night were nearly three times more likely to have BAC levels of 0.8 g/dL or higher than riders who were kill during the day.

Across the U.S. in 2011, Texas had the most motorcycle fatalities with 441 riders killed and 37% of these had 0.8g/DI BAC readings or higher. Florida was second with 426 riders killed and 34% impaired by drinking and riding and California third with 386 of which 22% of riders who died were under the influence of alcohol.

Mississippi and Ohio may have had fewer rider deaths in 2011 at 53 and 157 respectively, but both states had the national highest percentage of alcohol-impaired deaths at 40% of all motorcycle fatalities. (Vermont was actually higher at 63% but with only eight riders killed in 2011).

NHTSA's figures also show that in 2011 of the 4000 plus motorcycle riders killed on the roads in the U.S. 40% were not wearing a helmet. And based upon all 2011 motorcycle crash information NHTSA estimates that 1,617 lives of riders were saved by wearing a helmet and a further 703 may have survived if they had been wearing a helmet. This data makes no distinction between types of helmets (full or open face).

There can be no doubting the depth of NHTSA's 2011 research on motorcycle deaths and injuries. Some of it can be a little confusing and there are a lot of numbers and percentages to wade through but if you are prepared to read through it you can eventually work out the most dangerous day to be riding a motorcycle in any state in the U.S.

However, the staggering number in all of NHTSA's research is that of the 4,323 motorcyclists killed in 2011, 33% (1426) of the riders were under the influence of alcohol. That's almost 1 in 3 fatal motorcycle accidents attributed to drinking and riding.

# **Market Opportunity**

The Market opportunity for AirbagForBike is large as the competitors have not come up with a suitable solution. The typical motorcycle airbag only protects against head on collisions. There are some Swedish and French companies that have designed helmets that inflate upon impact, however these only protect the skull and neck. Some Japanese companies have made inflatable vests, but these don't protect the whole body either and are bulky and annoying for riders to wear.

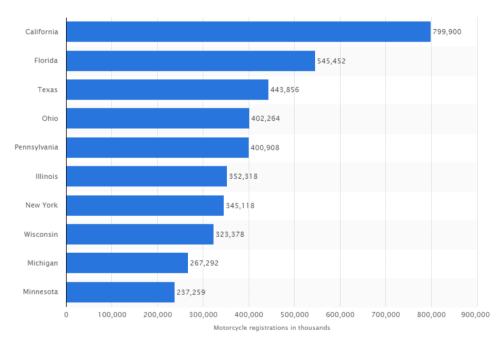
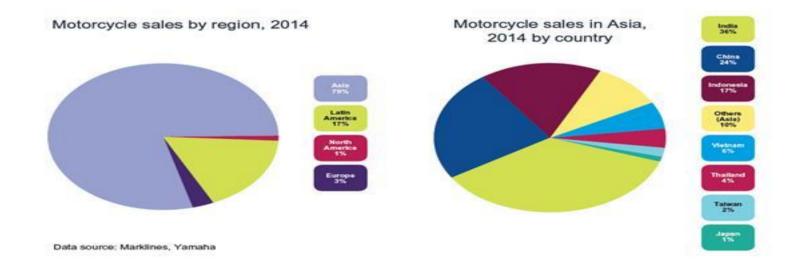


Figure 1: Leading states based on motorcycle registrations in the U.S. in 2013 (in 1,000s).

This statistic represents the leading U.S. states based on motorcycle registrations in 2013. With some 799,900 motorcycle registrations, California was ranked first that year. The total number of motorcycle registrations exceeded 8.4 million units in 2013. Of the more than 459,000 motorcycles sold in 2012, around 325,000 were on-highway motorcycles; a trend that carried on to 2013, a year in which even more on-highway motorcycles were sold. On- highway motorcycles include sport bikes and cruiser-type motorcycles.

In Europe, 1,151,000 motorcycles were sold in 2015. However, Europe and North America combined account for only 4% of the market. Latin America holds 17% of the market and Asia holds 79% of the market. To illustrate, China sold 26.4 million motorcycles in 2012 compared to the 450,000 sold in the US that same year. The statistics and sheer number of motorcycle purchases.



# **Marketing Plan**

Our marketing strategy will integrate an up to date website, social media, and other digital media to reach customers and clients. The details include:

- 1. Website The website will be used to both educate consumers on the technology behind the airbag, its function, its safety record and the way in which it revolutionizes riding without compromising on style or comfort, in addition to facilitating individual orders and wholesale enquiries. To do so a cache of educational content must be developed. That includes videos, safety training and testing guides, riding tips, fitting guides, FAQs and a regularly updated blog. As a first step we need to build trust in our website visitor interactions and an eye-catching video will do that better than most. Equally as important are real life testimonials (video) from real riders. The website should also have separate landing pages and call to actions for free demonstrations which will be coordinated with preferred suppliers and business partners. The website will need to feature a newsletter signup section and an opt in list for early release information or pre-release waiting lists.
- 2. Social Media Facebook, Instagram, Twitter and LinkedIn will be used in various ways to attract buyers of the airbag. Facebook is for longer form but colloquial conversations, therefore we can introduce some of the people behind our brand and their contribution to the design and prototype process. Videos of the testing sessions, introductions of the fabrics / materials used and footage from actual riders will be used to make the content easily digestible in addition to generic safety guides for motorcycle riding (titles such as: "Top tips for riding in the wet", "best new motorcycle jackets", "what license is required to ride a motorbike (international guide)". Instagram is purely image and video based, therefore we'll need to take high quality images at each stage of the business and product life cycle. Where possible we'll try and introduce the education and learning element in addition to our product on location in some spectacular places, tracks, roads. LinkedIn is where we can meet new business connections who may be able to help with the project. This includes engineers, suppliers of raw elements, advisors (safety, regulation, financial) and investors. LinkedIn is far more professional and therefore the content distributed and published through the network will be thought leading and industry relevant. Twitter will be used to engage in relevant conversations but only after the product is ready to be marketed.
- 3. Search / Pay per click Google Ads (and to a lesser extent, Facebook ads) will play a big role in our overall strategy to attract new customers and maintain existing ones. Using both paid search marketing and remarketing campaigns we will be able to measure the overall success of our keywords, copywriting, landing pages and targeting codes.

- 4. Partnerships / Associations / Industry Collaborations In order to gain traction in the most important industry (motorcycle) we need to develop rich relationships with industry associations. Examples include, Motor Vehicle Safety Standards, Consumer Product Safety Organisations, American Motorcyclist Association. Moreover, the partnerships will extent to conventions, exhibitions, race meets, charity ride drives and sponsorships, innovation grants and so on. To nurture these relationships, we will need to put together a marketing team that focuses on both long term partnerships and short terms branding and individual customer acquisition projects. Wholesale opportunities will also exist as will the potential for the airbag to be built in to large motorcycle companies bikes.
- 5. Direct Marketing In order to get serous about becoming the preferred supplier of airbag safety devices in motorcycle manufacturing we are going to have to introduce our brand the old fashioned way. That means, direct messaging and cold calling in order to book demonstration appointments with the key decision makers in bike manufacturing companies. Our product (once modeled) requires a hands on approach to selling (to this particular market) and therefore a full times sales representative is likely required to gather leads, close sales and account manage.
- 6. Government We hope to lobby the government to mandate all motorcycles to be built with our airbag system in it.

# **Competitive Scenario**

Competitors in the space are understandably few. The huge research and development investment required to bring this concept to fruition is enough to keep those with ideas out of the production market, however there are some that have developed similar products to ours. They are:

#### 1. Dainese

Dainese have identified that, motorcycle riders are 26 times more likely to die in a crash than occupants of passenger vehicles. Therefore, they have put their energy into developing technology that could make the road a lot safer for bikers. Dainese, is an Italian company with North American headquarters in Costa Mesa. They are building air bag protection right into the rider's apparel. Their D-Air Racing Suit deploys an airbag filled with helium. The airbag suit is designed to protect the shoulders, collar bones and spine. It will retail for \$2,500.

#### 2. SaferMoto

Produced by Hit-Air, a Japanese company, SaferMoto's line of airbag-equipped vests and jackets use an internal deployment system that connects to a motorcycle by tether, and deploys within .25 seconds if ejected from the bike, often before a rider's brain even registers they've been thrown off.

It takes at least 66 pounds of pressure to trigger the airbag mechanism, pressure caused only by a forceful movement by the rider so that unnecessary deployment is avoided if they merely forget to disconnect the tether from the bike when dismounting.

SaferMoto's vests and jackets range in price from \$339 to \$493, with replacement CO2 cartridges available at minimal cost should they deploy, and the equipment is easily reset for continued riding within minutes.

The i Gel protective system proposes a full-body airbag suit for protecting motorcyclists, bikers, skiers, and other hobbyists and professionals. Current-generation wearable airbags, including the Alpinestars Tech-Air Street airbag system which won a Wearable Technologies Innovation World Cup award at the conference, use sensors to detect a crash and inflate in milliseconds, protecting the vital bones and organs of the upper body with a layer of cushioning. In concepts like the Safety Sphere, we've seen that some designers think that the protection level could be dialed up a lot higher.

# **Competitive Advantage**

Only player in market to come up with unique airbag design that protects the full body in an easy to use manner. Further sources of competitive advantage include:

- Patent pending application protects the intellectual property and prevents competitors from entering the market.
- Designed to not burden the rider with unnecessary equipment that needs carrying / transporting; and
- Designed to completely protect the rider from head to toe.

## **Risk Assessment**

We have identified the following risks and threats that we anticipate a manufacturer may also identify with:

1. Maintaining competitive advantage

While we acknowledge that our patent pending acts as a strong deterrent to other market participants we also acknowledge that other motorcycle manufactures could state an intent to lead the safety development in respect of motor cycles. This needn't be in the area of air bags but could come in the adoption of the next wearable safety technology and devices or harnesses.

Therefore, it is important to recognise that our ability to incorporate new technology and services into the product by iteration will protect our product from obsolescence. The ability of a competitor to bring to market a similar product prior to ours is seen to be a threat. Of course, we cannot second guess how that product will look but it is important to note that the market is still extensive and the returns forecasted later in this plan are capable of withstanding attaining less market share (when new competitors emerge).

2. Delivering the prototype and then product on time

The technology behind the air bag is all new to the team behind the venture. Thus, attracting and retaining key engineering staff is critical to the overall success of the venture. In addition to the engineering team needed to develop a prototype we also need a committed team to continually improve the product and get it to market en bulk. We must fix a development timeline to the prototype schedule and provide sufficient incentive and motivation for key staff to achieve the targets, perform well at all times and remain loyal.

3. Appealing to experience motor cycle riders

Notwithstanding the fact we want our product built into the bike themselves, it is still important to appeal to riders who make the original purchasing decision. Although safety is often a consideration in the buying decision process, style is often the driver and thus the implementation of our airbag cannot hinder the aesthetics of the bike. Varying the product to fit a range of different shaped and sized vehicles is critical to avoiding risk.

## The Team

AirbagForBike is backed by an experienced entrepreneur and opportunist, Andras Fenyves.

Andras Fenyves, the founder of AirbagForBike, will bring his business expertise and innovative ideas to grow AirbagForBike. Having already created a successful multimillion dollar medical practice, he also has worked on projects in technology and social media. His expertise in running businesses and bringing innovative visions to fruition will make AirbagForBike successful.

## Recruitment

Whilst the team believe we have a wide range of skills which will increase the potential of the venture flourishing, we appreciate we need accomplished support staff. That includes anyone from investors, advisors, engineers, relationship partners, volunteers to employees.

# **Management Equity**

Andras Fenyves owns 100% of AirbagForBike.

# **Investment Realization and Exit Strategy**

In this environment it is inevitable our success will come to the attention of many players and competitors in the motorcycle and safetyindustries. Depending on how they view it relative to their own position and investment in the industry, it is likely to lead to the business being of interest to some of these companies. For our shareholders and investors, this will undoubtedly give reason to consider the value of their investment and whether it is appropriate to sell some or all of the business to one of these interested companies.

Alternatively some of our manufacturing partners may wish to invest in the company directly. There is also the possibility to give the wider investment community a chance to share in the company and its fortunes via an IPO or Peer to Peer fundraising, as part of this process, the current shareholder may down its investment as part of this process.

Either way, there are a number of options available to shareholders in our business within each of these scenarios to realize on their investment. Much will depend on timing and the success of the company, as well as any industry factors that are known or likely to influence the market in the immediate future.

## **Financial Forecasts**

Each airbag will be sold for \$800 dollars and cost us around \$400 to manufacture. We project losses for the first year and to realize profit by the 2nd ... year. Based on development and testing costs as well as adjusting the airbag to the test results we estimate a total cost of \$500,000 in the year. Censing revenues based on 15% license fee of \$60 per airbag sold. stimates 33 million new motorcycles entering market each year. Reased on a maximum of 5-year life, an estimated 150 million operational motorcycles are suitable for retrofitting. Reased on 30% Reased on 30%

	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue	0	\$61,800,000	\$618,000,000	1,854,000,000	4,326,000,000
COGS	0	\$30,000,000	\$300,000,000	900,000,000	2,100,000,000
GM	0	\$31,800,000	\$318,000,000	954,000,000	2,126,000,000
R&D	\$450,000	\$1,100,000	10,000,000	25,000,000	50,000,000
Sales and Marketing	\$50,000	\$5,000,000	10,000,000	50,000,000	100,000,000
G&A	\$50,000	\$1,000,000	5,000,000	25,000,000	50,000,000
Ор. Ехр	\$550,000	\$7,100,000	25,000,000	100,000,000	200,000,000
Op. Income	\$ (550,000)	\$24,700,000	293,000,000	854,000,000	1,926,000,000
Income Tax	165,000	\$(7,410,000)	87,900,000	256,200,000	577,800,000
<u>NI</u>	\$ (385,000)	\$17,290,000	205,000,000	597,800,000	1,348,200,000

#### **Notes on Financial Forecasts**

Year 1 R&D consists of: First Prototype build: \$50,000 Replication of initial prototype for crash testing purposes (10 additional prototypes built): \$100,000 Testing: \$50,000 Re-design, 10 new prototypes based on test results: \$100,000 Re- testing: \$50,000 Materials needed for prototype and testing versions: \$50,000 2 engineers full time: \$150,000

Year 2

All numbers assuming, we capture 0.1% of worldwide motorcycle market in both used and new motorcycles (30,000 units sold for new motorcycles and 150,000 units sold for retrofitting).

Revenue: Retrofitting: \$60 million Licensing: \$1.8 Million R&D consists of: Testing: \$500,000 Materials needed for prototype and testing versions:

\$400,000 2 engineers full time: \$200,000

Marketing will include: Hiring Marketing Team for B2B branding and targeting. Emailing and Cold calling campaign Social Media Brand recognition TV ads

#### Year 3

All numbers assuming, we capture 1% of worldwide motorcycle market in both used and new motorcycles (300,000 units sold for new motorcycles and 1,500,000 units sold for retrofitting)

Revenue: Retrofitting: \$600 million Licensing: \$18 Million

#### Year 4

All numbers assuming, we capture 3% of worldwide motorcycle market in both used and new motorcycles (900,000 units sold for new motorcycles and 4,500,000 units sold for retrofitting)

Revenue: Retrofitting: \$1.8 billion Licensing: \$54 Million

#### Year 5

All numbers assuming, we capture 7% of worldwide motorcycle market in both used and new motorcycles (2,100,000 units sold for new motorcycles and 10,500,000 units sold for retrofitting)

Revenue: Retrofitting: \$4.2 billion Licensing: \$126 Million

**Revenue Forecast** 

Assuming Sales start in the second year and we sell 50 airbags per year, our revenue will reach \$40,000 per year with a cost of goods sold of 20,000. Assuming growth of 15% per year and testing of \$30,000 per year, we expect to break even by the 4th year.