

# VRPhysio-Business Plan

# 29/06/2016

## **Table of Contents**

Company description	2
Team	2
Objectives and Goals	
Product and Technology	4
Current stage of development and main achievements to date	5
Market analysis	5

Target market	5
Total Market Valuation	θ
Trends	7
Competition analysis	8
Competitive advantage	10
Go-to-Market Strategy	11
Business Model	12
IP, Patents, Copyrights, Brands	13
Financial Forecast:	14
Intro	14
Development Costs	14
Bom & Pricing:	14
Projected sales:	14
Cash flow:	15
Profit and Loss:	15
Valuation	16
Funding Requirements	16
Risks & alternatives	17
Clinical and safety	17
Customer adoption	17
Inelectual Property	18
Manufacturing risks	18
Market risks	18
Technological risks	19
Competition	10

## **Company description**

#### Team

#### Eran Orr, 34, CEO

Eran founded VRPhysio in 2015. He has significant experience from the physiotherapy prevention industry, previously serving as Initiator and coordinator of the IDF spinal cord damage prevention program for air crew personnel. Eran served as a Fighter Squadron Executive Officer in the Israeli Air-Force for 12 years. Eran hold a BA in Business Management, Government, and Politics from Ben Gurion University, and soon will graduate an MBA in Entrepreneurship and innovation Business administration.

#### Aryeh Efergan, 51, CSO

Aryeh has 25 years of experience as a physiotherapist, including 12 years as Lt. Col. and chief medical officer Physiotherapy consultant, Medical Corps - physiotherapy department. He has a Private physical therapy practice – an orthopedic rehabilitation and pain treatment. Previously serving as a physiotherapist at Clalit Health Services. Aryeh hold an MHA in Healthcare Administration and a B.PT in physical therapy from Ben Gurion University.

#### Jon McTagggart, 32, CTO

Jon is an UX designer of digital and physical experiences. Jon has a vast experience as a designer and technologist. His the inventor of the IDF 'mek-porek'. Jon hold a B.Des from TH Köln Germany and an M.Des in Design and Tech from Bezalel Art Academy Jerusalem.

#### **Oded Menahem, 31 VP Operations**

Oded is an Ex F-16 fighter squadron executive officer, specialist in projects management and gaming. He hold B.A in Economics and Management from Ben Gurion University and soon will graduate an MBA in Entrepreneurship and innovation Business administration in Tel-Aviv University.

#### Yair Zuk, 31 VP Marketing

Yair is an Ex F-16 Pilot Training Commander, Part of the IDF spinal cord damage prevention program. Yair hold BA in Information Technologies Management from Ben-Gurion University and MBA in Technology, Innovation and Entrepreneurship from Tel Aviv University.

#### **Objectives and Goals**

VRPhysio is combining the world of virtual-reality and physiotherapy and launching a set of patent-pending devices that will change the physiotherapy world as we know it.

The company Vision is to establish VRP training as the leading training style in home fitness, preventive training and physiotherapy.

VRPhysio aims to make home physio workout fun, easy, and with real time feedback including biofeedback accessible to both the physiotherapist and the user.

VRPhysio solution is a virtual reality (VR) device consisting of a head set incorporating weights and biosensors and an app downloaded to user's smart phone. The app, taking in to account the biofeedback data, guides the user to the correct exercises while playing a VR game.

VRPhysio vision is that 5 years from now the VRPHYSIO device will be aimed at in home whole body training. Thus, VRPHYSIO device will be a common, affordable, comfortable, and enjoyable in home substitute for gym workout used by healthy and injured people. During the first year VRPhysio strive for the device to be used by patients undergoing physiotherapy treatments. Using the VRPHYSIO device the healing process will be easier and more efficient.

Because VRPHYSIO is accessible, enjoyable and easy to use it will improve the physiotherapy treatment and this is the correct market to aim for.

VRPhysio devices will be high end product and will make the physiotherapy process better in every aspect and will change the physiotherapy world.

The hardware and software assist in both targeted injury recovery, and preventative workouts through fun and immersive virtual gaming.

The headgear and body sensors monitor the body's movement while biofeedback sensors monitor the body's measurements. Depending on what the body is experiencing the VR experience changes, encouraging constant improvement.

Anyone can do VRP - young or old, outdoors or at home, and they can even do VRP with their friends online no matter where they are in the world!

Remote data access allows the healthcare professional to monitor the workout and change the gaming experience according to patient's needs and progress in a seamless manner.

#### **Product and Technology**

The device is muscle rehabilitation and strengthening device that allows for a full body workout. The product is a combination of hardware and software offering a holistic user experience throughout the whole training session, as well as precise data collection and analysis capabilities using advanced biofeedback sensors. By monitoring sensors such as HRV, GSR, EMG and EEG data in real time the training session and overall plan is updated to perfectly match the user's physical ability and needs.

The device is constructed around a head gear and VR goggles to which a set of varying weight weights are attached according to the planned training session as instructed by the software. The head gear is constructed of a series of padded support straps which secure the goggles and weight connection spots to the user's head. The straps are constructed of a flexible plastic material (polypropylene) and padded at different locations around the user's head with microfiber fabric / silicone. The straps secure the plastic goggles housing to the user's face allowing for the insertion of a smartphone into a fixed position approximately 80mm from the user's eyes. Glass lenses are placed between the phone's screen and the eyes of the user and can be adjusted (focused) by a set of dials placed on the outside of the device. The weights attached to specific pre-defined spots and can be easily attached and detached via a magnetic locking system. Each weight has a neodymium magnet embedded into it and it's attached to a steel spot on the head gear, guiding it into a locking spot. The weights are made of have a neodymium magnet covered in lead and

covered in a silicone / fabric housing. Each weight has a different value varying from 100 grams to 300 grams.

#### Current stage of development and main achievements to date

- Alpha product and app development
- Utility patent pending for the neck device and optional
- Other body sensors
- Trademark VRP Virtual Reality Physiotherapy
- FDA approval as rehabilitation device in process (513g)

## **Market analysis**

#### **Target market**

The target market of VRP is the physiotherapy accessories. The product designed to help the patient in two main stages:

- 1. Prevention of a trauma by building stronger muscles
- 2. Help in recovering from a trauma by performing exercises that gradually building the motion abilities.

VRP can perform these procedures in many parts of the body: neck, arms, legs and back. But the strategy is to focus first of all in the NECK problem.

The reason for focusing on the neck comes from different causes:

- Simplify the MVP: the headset is the same, but the sensors can be less complex, the app can be very simple. (R&D)
- 2. Simplify the FDA approval only neck injuries
- 3. Reduce risks of failures.
- 4. Ensure that all the targets are visible and clear.
- 5. Marketing in more focused area
- 6. "Niche" market less competitors

7. Very common problem with almost none solutions (blue ocean)

The VRP product is designed for the "end" user. The patient that is in pain or the one that wants to prevent it. But as we understand the market, there are some options to whom to sell the product. Who is the customer that pays for the VRP?

- 1. The patient
- 2. The physiotherapist
- 3. The hospital/clinic
- 4. The insurance company
- 5. The institute (sport team, air force, hi tech firm, etc.)

In the "go to market" we shall advise which "paying client" is the most suitable.

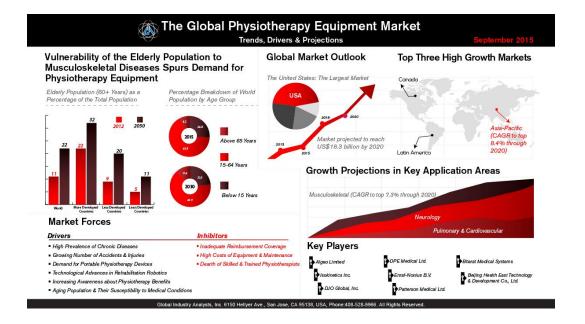
#### **Total Market Valuation**

The U.S. rehabilitation market is estimated to be a \$29.6 billion industry and projections indicate is going to keep growing at least five percent each year. The reasons for this growth are the aging population, the high incidence of sports injuries, and rising awareness about therapeutic applications of physical therapy. Recently there was a national healthcare reform which may increase the number of insured Americans and further increase the demand for physical therapists.

The most treated areas are lower back pain, spine, shoulder and rotator-cuff injuries, knee disorders as well as sprains and strains of various types. Due to the rapid and significant growth in the market, private insurance companies as well as government health programs are in the search of providers that can offer lower cost and better quality and results.

The global physiotherapy equipment market is anticipated to grow from an estimated US\$15B by the end of 2015 to US\$23.7B by 2022 at a CAGR of 6.8% during the forecast period. According to IBISWorld by the end of 2016 the number of physical therapy establishments in the United States

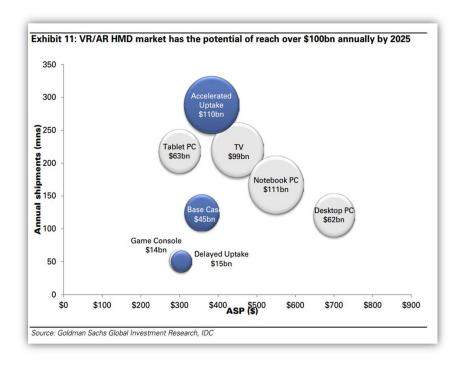
will be 123,351 with around 300,000 practicing physical therapists. The market is highly fragmented; the 50 largest competitors represent less than 25% of the total market.



#### **Trends**

VRP is "riding" on one of the biggest trends in the world – the virtual reality trend. The potential in the VR environment is huge, but the main problem is that all the big players are aiming for there. So, how do you deal with competitors like "Google" and "Facebook"? You don't... these giants don't aim to the medical accessories as far as we know.

In the graph below we can see the growth of the VR market:



Another trend that VRP use is the "neck injuries".

One of the most common insurance claims from car crashes is the "whiplash". A neck trauma that happens in almost every car accident. Moreover, in a world that more people spend time in front of their computer/cellphone/iPad in a bad posture, the risk of neck injury is climbing up.

Using a very simple technology that is based on the latest "buzz", in a growing market like the neck injuries, in a position that there are almost zero competitors – looks like the right place to be in.

## **Competition analysis**

The competition can be divided by two main categories:

- 1. Virtual reality
- 2. Physiotherapy accessories

Why we think it's the way to divide it?

VR products that are based on the mobile phone (as VRP) can shift their interest very fast. It mainly depends on the app, and some sensors. The main problem for competitors to enter the physiotherapy market will be the FDA approval and the acceptance of the doctor's society.

VR products that are based on "stand alone" tech, can also divert their focus to physiotherapy, but it involved high costs. In the other hand, most of these firms already have an FDA approval and they are common in the doctor's society.

Physiotherapy accessories on the market today range from rubber bands to laser beam that reduces pain. We believe that the competition from those solutions is weak.

Platforms that combine between VR and physiotherapy are very few and based on very large equipment that is located in the clinic/hospital. The costs of these platforms are high, and the patient can't use them by himself.

If we take all the categories above, we believe that the most intense competition will come from the VR healthcare companies, or from the VR sport/gaming companies.

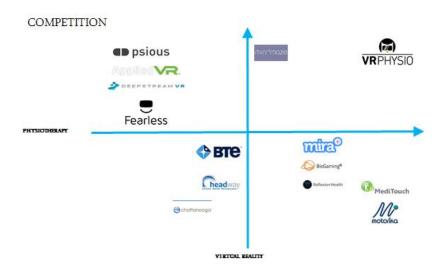
It looks like most of the companies that combine VR and healthcare (as VRP) aim to a very specific category. This brings a bit more confidence that they might not go to the physiotherapy world. The sport/gaming companies will have to allocate resources to enter a new market that is far less attractive.

We decided to focus on these 3 competitors:

1. Mindmaze - MindMaze is a spin off from the Swiss Federal Institute of Technology (EPFL) and in less than three years has become one of the top 10 healthcare startups in Switzerland. The company brings together an eclectic mix of computer scientists, neuroscientists, physicists and roboticists driven by a passion to enhance the quality of life of brain injury survivors. In less than three years the MindMaze team has developed and launched medical grade virtual reality products to stimulate neural recovery.

- 2. Psious The Psious platform offers the benefits of Virtual Reality quickly and easily, through your own smartphone and 3D goggles, with no need for costly or complex equipment investments. Psious is easy to use and does not require professional installation or technical expertise. Designed by psychologists, Psious was built as a complementary Tool Suite to help you better manage the difficulties presented by exposure therapy. best practices to anxiety patients.
- 3. DeepStream DeepStream VR is the industry leader in Virtual Reality for healthcare. As pioneers in VR healthcare for over 20 years, using VR's high bandwidth channel to the brain and senses to boost your physical and mental health

These are the most critical competitors:



#### **Competitive advantage**

VRP competitive advantage built from a unique combination of:

- Low cost hardware
- Low cost software
- Easy to use design that based on your own mobile phone
- Fun training easier and faster results

- Close follow up by the physiotherapist
- In house use. No need to go to the clinic
- Proven Training method

But all of this is worthless without a great team!

- An exceptional talented and devoted CEO that is driven from his own experience
- A group of professionals that accompany the progress every step of the way

## **Go-to-Market Strategy**

As we describe above, the "paying customer" may vary. The chain of need can start from the "end" customer – the patient that in pain, through the private physiotherapist, the clinic/hospital or even the insurance companies. All those methods are post trauma. There's an option to sell it to firms that want to prevent a neck trauma – such as high tech firm, government departments or sports teams.

We believe that best strategy is to focus on the private physiotherapist or clinics.

Part of the service that VRP are aiming for, is a close relationship between the patient and physiotherapist. By selling to the physio' you ensure that the full service – the training, the follow up on the progress and the custom solution to each patient can be achieve.

The main barrier that will differ VRP from other VR solutions will be a high quality equipment that ensure great result.

The physiotherapist can explain the customer exactly what's need to be done, and manage the whole process. The physiotherapist don't have to buy the headset (probably 1 or 2), but they can address the patient to VRP site (with a user name to track the patient).

In this way, the physiotherapist act as an intermediary between the patient and VRP.

In conclusion, the "go to market" divided to two main customers:

- 1. The physiotherapist
- 2. The patient (through the physiotherapist)

#### **Business Model**

VRphysio business model based on several revenue channels which can be worked simultaneously. Company's strategy is to examine each channel individually in order to determine which ones are the most beneficial. The revenue channels aren't contradictory one to another and nevertheless, can be found as a complementary product to each other.

#### Product channel:

In order to use the product the customer will have to purchase its parts: head set (including weights) and biofeedback sensors. The app will be free for download to the smart phone.

#### Service channel:

As mentioned in our marketing strategy, the product will be offered to use by medical clinics and private physiotherapist as part of the medical treatment and service to the customer.

#### Advanced app features:

The app will include premium features which will be charged, for example: more training games, expert physiotherapist follow up and instructions according to user's data.

#### Data base:

The company will use the enormous database gathered by the customer's smartphone apps through their trainings by offer it to advertisers, medical companies, insurance companies and so on.

## **Research and Development**

## IP, Patents, Copyrights, Brands

As to the efforts of protecting the product from being copied or replicated the company's taking actions in the intellectual property field, writing patents on the product and trademarks on her label.

Utility patent pending for the neck device and optional other body sensors:

- Provisional patent has been submitted on the relationship between the head gear with its weights to the smartphone app which guiding the user to a constructive neck practicing.
- Provisional patent has been submitted on the relation between the bio-feedback sensors
  which are positioned in several places of the user body to the app, providing real time
  data information to the app which react concordantly, making sure the user receive the
  accordant and suitable instructions.

#### Trademark VRP workout:

- Company name "VRPhysio" has been submitted as a trade mark.
- The label "VRP" has been submitted as a trademark of any kind of "virtual reality physiotherapy".

Besides those two efforts, an FDA approval as rehabilitation device is in process (513g), making sure the product will be well assured as a health product statutably to the severities of the FDA.

# **Financial Forecast:**

#### Intro

VRPhysio is developing a main unit which is the headset and a complementary Body sensor set that will be sold separately.

All manufacturing and distribution is outsourced, distributor share is assumed to be 50%.

## **Development Costs**

Component	Development
	cost
Headset	\$55,000
Body	\$15,000
Sensors	
Total	\$70,000

## **Bom & Pricing:**

Headset sale price	\$300
Body Sensors sale price	\$50
Headset production cost (including shipment and packaging )	\$69
Body Sensors production cost (including shipment and packaging )	\$28

## **Projected sales:**

Projected S	Sales	Y1	Y2	Y3	Y4
	Projec				
	ted				
	amou				
	nt	1,000	19,000	75,000	150,000
Prod	Reven	\$300,	\$5,700,	\$22,500,	\$45,000,
uct 1	ue	000	000	000	000
	Projec				
	ted				
	amou				
	nt	0	250	3,700	9,300
Prod	Reven		\$12,50	\$185,00	\$465,00
uct 2	ue	0	0	0	0

# Cash flow:

	Y1	Y2	Y3	
	Total	Total	Total	Y4 Total
Accounts Receivable	36,986	704,312	2,797,237	5,606,421
Accounts Payable	11,351	216,824	868,484	1,745,790
Inventories	1	-	1	-
Net Income	-376,050	461,825	2,649,789	6,211,161
Depreciation	1	-	1	-
Increase in Accounts				
Receivable	36,986	667,325	2,092,925	2,809,184
Increase in Accounts				
Payable	11,351	205,473	651,660	877,307
Increase in Inventories	-	-	-	-
Cash from operation	-401,686	-27	1,208,523	4,279,285
<b>Product Development Cost</b>	55,000	15,000		_
Free Cash Flow	-456,686	-15,027	1,208,523	4,279,285
<b>Cumulative Free Cash Flow</b>	-456,686	-471,713	736,810	5,016,095

## **Profit and Loss:**

	Y1	Y2	Y3	Y4
Revenues	Total	Total	Total	Total
Total NET Sales	\$150,000	\$2,856,375	\$11,344,350	\$22,737,150
Cost of sales	\$69,050	\$1,319,012.5	\$5,283,275	\$10,620,225
Gross Profit	\$80,950	\$1,544,425	\$6,059,225	\$12,116,925
%	54%	54%	53%	53%
Costs Summary				
General & Admin.	\$109,000.00	\$128,800.00	\$312,600.00	\$386,400.00
% of sales	135%	8%	5%	3%
R&D	\$158,000.00	\$129,000.00	\$528,775.00	\$417,600.00
% of sales	195%	8%	9%	3%
Operations	\$78,000.00	\$160,000.00	\$244,000.00	\$255,200.00
% of sales	96%	10%	4%	2%
Sales Marketing	\$112,000.00	\$459,812.50	\$1,190,287.50	\$2,184,637.50
% of sales	138%	30%	20%	18%
Total Costs	\$457,000.00	\$877,612.50	\$2,275,662.50	\$3,243,837.50
EBITDA	-\$376,050.00	\$666,812.50	\$3,783,562.50	\$8,873,087.50
Development cost device	-\$95,000.00	-\$15,000.00		

EBITDA+Development cost	-\$471,050.00	\$666,812.50	\$3,783,562.50	\$8,873,087.50
inc Non Expected expenses	-\$50,000.00	-\$100,000.00	-\$150,000.00	-\$150,000.00
% of expenses	10.9%	11.4%	6.6%	4.6%
Total	-\$521,050.00	\$566,812.50	\$3,633,562.50	\$8,723,087.50

#### **Valuation**

#### **Valuation Assumptions:**

Tax (%)	30
Costumers Credit (Days)	90
Suppliers Credit (Days)	60
Discount Rate (%)	30.00%
Forecasted Growth Rate (%)	5.00%

Net Present Value	20,805,833
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#### Sensitivity Checks:

The enterprise is more pricing sensitive then sale amounts sensitive, we shell demonstrate this using a 20% decrease in pricing and in amount of sales and show how it effects valuation.

In case of sales amount being 20% less than anticipated:

Net Present Value 15,316,341
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Indicating a 26% decrease in value

In case of **prices** being 20% less than anticipated:

Net Present Value	8,542,143

Indicating a 60% decrease in value.

## **Funding Requirements**

After we examine the financial forecast, and in order to penetrate the market, there is a need of proof of concept to demonstrating significant physiological improvement using virtual reality workout.

The development process is at its final stages. We have a prototype of the device and we wish to

demonstrate the utility of our product on 100 clinical cases. It will be made by user testing on 100 users clinically proving neck muscle power and range of motion increasing after VRP workout. To that end, we plan to raise \$450K in the upcoming summer so that we could manufacture the first batch of devices. Completing this stage, we will also be a able to improve the virtual reality technology if needed.

#### **Risks & alternatives**

#### **Clinical and safety**

As with all healthcare devices, close attention must be given to safety and regulation issues, risks may include:

- Proving clinical Efficiency.
- Proving safety demands and regulation for both the device itself and the use of the device.
- Since a physiotherapist is not monitoring the patients movements during the exercise there is potential for physical damage for patients from making wrong movements, especially regarding patients with existing neck injuries.
- Risk of injury related reputation damage and law suits stemming from use of the device.

We are currently conducting clinical tests to get FDA approval, we are consulting with top of the art physiotherapists and a key team member is the former chief physiotherapists for the IDF, our product includes feedback sensors and the device program will monitor performance end prevent damage to patients, we will consult with lawyers to take preventative actions as preparation for law suits, just in case they will accrue.

#### **Customer adoption**

Even when the device is proven safe and effective there is still risk of customers not adopting the new device, reasons for this may be:

- Reluctance from physiotherapists to recommend the device for patients.
- Reluctance of patients to buy/recommend the device, this can happen on account of several reasons:
  - O Trust / unfamiliarity issues.
  - O Pricing issues.
  - o General reluctance for home training.
  - O Training program (software) not appealing enough to encourage use.
  - Side effects like vertigo discomfort or nausea as a result of VR use for certain customers

User experience surveys will be conducted during BETA phase and we will make necessary adjustments to the product mechanics, software and user interface if needed. Also, please see the marketing section on this document for more about our marketing strategy.

#### **Intellectual Property**

- Patent getting rejected for violating former patents (deal killer risk)
- Losing market share in markets we don't have registered patent dew to patent theft.
- Patent bypass from competitors dew to inefficient patent protection.

We have a patent pending for all the markets we intend to penetrate; thorough investigation was conducted prior to the patent application to make sure we do not violate any existing patents.

## **Manufacturing risks**

• Risk of not managing to produce at planned unit cost can impair profitability.

Product engineers and cost reduction specialists will be consulted to keep manufacturing costs in check.

#### Market risks

 Risk that market demand will prove substantially lower than anticipated, this can impair our growth potential.

• Risk that actual pricing point may impair profitability.

Profound market research will conducted prior to first market penetration.

#### **Technological risks**

There is always a tradeoff between time to market demands and the time it takes to get the product mature enough to be released to the market, technological risks we might face are:

- Risk of getting too soon to market with a product that does not function properly.
- Pain recognition Does the technology prepared for that?
- Risk of compatibility to customer's current and future cell phone devices.

BETA phase of the product is conducted to expose any malfunction and fix them before market entry.

## Competition

• Competitors such as "Biogaming" compete over the same market niche.

Our value offer for patients is unique and different from that of our current competitors, patents pending should protect us against future competitors long enough for VRphysio to become market leader.