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Executive Summary

A novel sternal reinforcement device

The Company, Cardeovis Technologies Ltd is founded in 2017 by Mr. Boris Fradkin, for development of his patents. He holds 15 PCT, USA and Israel patents and patent applications.

The company Vision is to provide an efficient, innovative, accurate, high quality patented product for median sternotomy.

Conventional closure of primary sternotomy is done using many different methods, most often with surgical steel sutures.

An osteoporotic or fractured sternum, and obesity are the most frequently cited risk factors. There is no uniform osteosynthetic method for primary sternal closure and there is substantial variation in the perception of risk factors for sternal instability and possible surgical consequences among the surgical heart centers.

Stainless steel wires are currently used for median sternotomy closure in cardiac and general thoracic surgery; this method is effective, and fast. However, the wires in patients with additional risk factors can damage and cut bone during respiratory and chest motion, leading to instability and chest pain, and they can even increase the risk of dehiscence. Standard closure might not be adequate in such patients, and reinforcement of the closure site is needed.

The Product. A novel sternal reinforcement device (NSD) has been designed to prevent cutting into the bone and to provide exact connection of two sternal parts after operation. The use of steel bands for median sternotomy closure is a safe, reliable and reproducible technique. The frequency of sternal dehiscence significantly decreases with this technique in high-risk patient in comparison with wires. NSD provides exact control on the sternum closure force. NSD is disposable.

The Advantages of NSD: NSD improves mechanical stability; provide exact connection of two sternal parts, provide accurate force and allows sternal closure with stainless steel bands when bone fracture occurs.

The Renewal Market Potential is estimated by at least USD 200 million annual by taking into account that the retail price of one NSD in small quantities would be in worst case US\$.20

The amount of open heart operations in the US only is 700,000 annual (2017) and that is approx. 40% of the worldwide amount.

The needed investment. The company is looking for the project funding. The needed Investment is US\$500k

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Letter from Prof. Sahar , March 4, 2019:

Dear Boris,

You elucidated very nicely the medical aspect - it might be even more prominent in nowadays

When obesity becomes a major issue of concern.

“Your solution is well targeted efficient and not expensive (the price for the whole operation in the USA is about US\$40 K) “

Prof' G.Sahar