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HCM Viewpoint

Director Interlocks: A Blessing Or A Curse?



Swiss All Share Index Universe



Number of companies

234



Number of Board seats

1'554



Number of directors

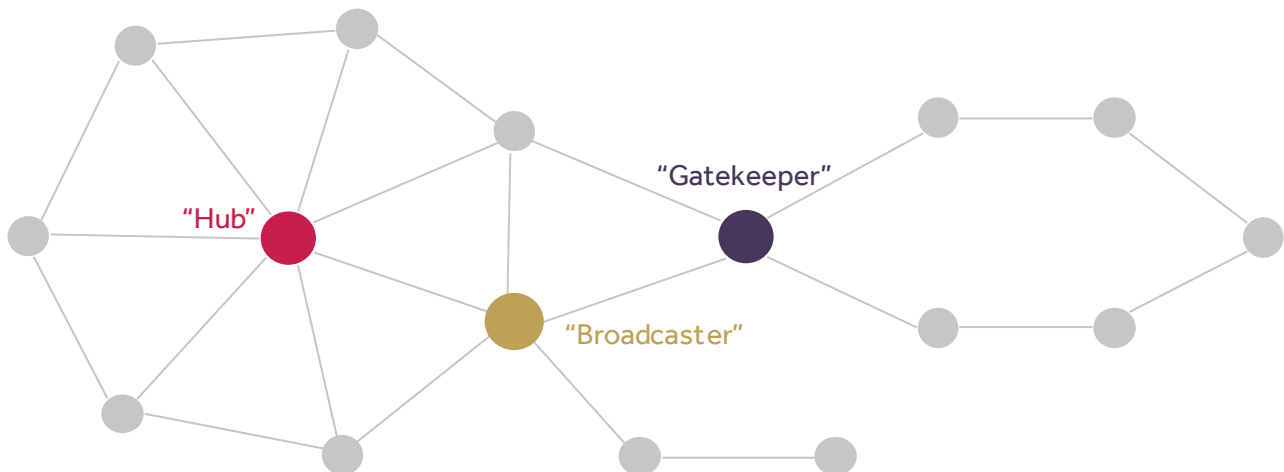
1'348



Average Board size

6.8 members

Network actors



"Hubs" take up the most resources in the network

"Broadcasters" spread information within the network

"Gatekeepers" control information flow in the network

Degrees of separation in a business context

According to the six degrees of separation theory¹, everyone on this planet is connected to each other by a maximum of six steps i.e. the number of connections needed to link to a targeted person. Hence, your friend's friend could potentially introduce you to Roger Federer, or if he does not, then at least your friend's friend's friend's friend's friend will.

"Networks are of high value for personal and business reasons"

Networks are of high value for personal and business reasons. In a globalized and digitizing world, individuals are likely to be increasingly interwoven. Recent research by Facebook² has shown that in their network members are actually separated by a mere 3.5 steps, not six.

Though meeting a superstar like Roger Federer would certainly be thrilling, in a business context it would be of greater value to be introduced to a new potential employer or employee, client, business partner, etc.

In this viewpoint, we explore the power of networking among those who serve on the Boards of Directors. We use the word "boards" here to refer such boards and "directors" to refer to board members. Unlike executives such as a CEO or CFO, or any other employee who works for a single company, directors are not constrained to having only one mandate and thus may have an interlocking relationship with multiple companies.

Director interlocks

In the context of this viewpoint we define **director interlocks** as a connection between at least two companies that is created when a director of one firm sits on the board of another. This link is at two levels: the firms are linked by sharing directors, and the directors themselves are linked by the direct personal interaction they have among each other³.

This phenomenon means that the top decision-makers and their companies are more strongly connected than other players in the marketplace. To better understand the characteristics and functionality of a network resulting from board connections, we look at the **Swiss All Share Index universe**, which includes all SIX Swiss Exchange-listed shares of companies domiciled in Switzerland or in the Principality of Liechtenstein.

Each company's board is viewed as a node in a company-to-company network. Two companies are connected if they share at least one common board member. Theoretically, there are 27'261 possible director interlocks within the Swiss All Share Index currently comprising 234 companies. Yet our analysis reveals 241 such connections.

"It takes 4.8 steps within the Swiss directorship network on average for two companies to be connected via shared directors"

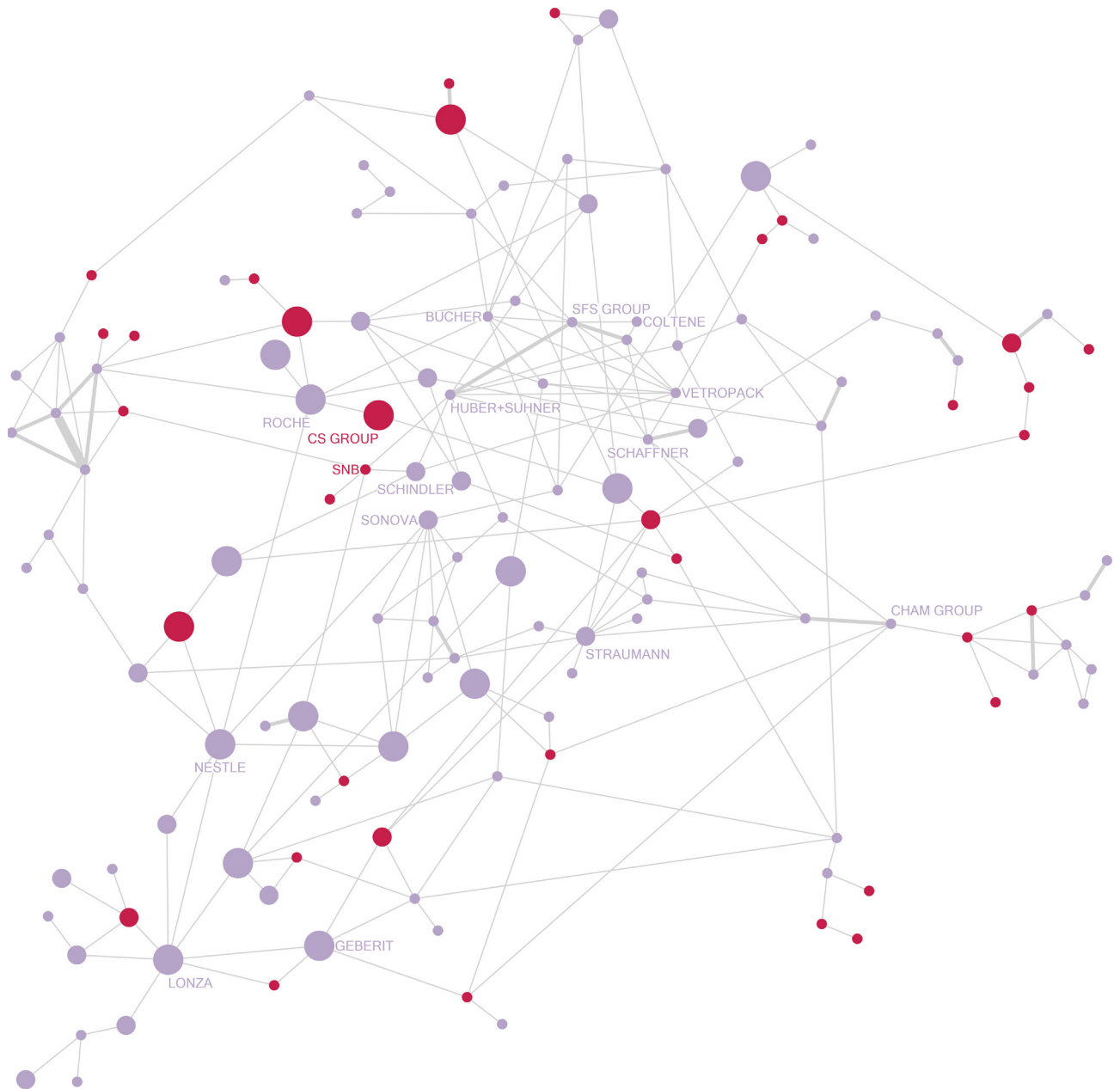
Figure 1 depicts an excerpt of the Swiss All Share Index universe representing the maximum set of companies connected by a path, i.e. a way by which any company can be connected to any other company. Our focus is this **largest connected grouping, which comprises 136 companies** (or 58 percent of the Swiss All Share Index universe). We refer to this grouping as the **Swiss directorship network (SDN)**. Based on our data, it takes **4.8 steps within an SDN on average for two companies to be connected via shared directors**. The longest path contains 12 steps.

Knowing who are the members of the network is itself of significance. So is knowing the steps needed to connect to other network members. But even more important is identifying who may have greater potential to have influence in the network. A closer look at the relations within the SDN allows a better understanding of the interlocking phenomenon from an influence perspective.

¹ https://en.wikipedia.org/wiki/Six_degrees_of_separation

² <https://research.fb.com/blog/2016/02/three-and-a-half-degrees-of-separation>

³ In this study, however, we limit the director interlocks to members of the Board of Directors and do not consider further possible options (e.g. C-suite and Board interlocks, etc.). Furthermore, the focus is on the Boards as a body and not on the individual members of the Board.



- Financial companies
- Non-financial companies

The size of a node reflects the affiliation to an index: the biggest circle refers to the SMI, the mid-sized circle to the SMIM, and the others to other Swiss All Shares Index constituents. Thickness of the line reflects the number of common directors among two connected companies.

Figure 1: The largest connected component of the Swiss directorship network.

What makes a network member a network “influencer”?

One way to identify “influencers” is to consider the number of direct connections of network members to others (i.e. **degree centrality**). Our data shows that SDN network members have **3.4 direct connections on average**.

The degree centrality score of some Boards, however, materially exceeds this average value. Figure 2 depicts companies with the highest degree centrality score. These companies enjoy the **highest exposure to a network** and can be referred to as network “hubs”.

The degree centrality, however, provides only local information about a network member without giving

consideration to the rest of the network. Ultimately, all connections a node has are of value, though not of equal importance. A node’s importance could be assessed by its **eigenvector⁴ centrality**. Overall, a high eigenvector score means that a node is connected to many nodes which themselves have a high degree of centrality scores.

As can be observed by comparing Figures 2 and 3, boards having many direct connections do not necessarily possess a high eigenvector centrality score. Moreover, a board with high eigenvector centrality is not necessarily highly interlocked: it may have few but very important links. Expressed otherwise, information about eigenvector centrality allows one to identify a) the most **central actors in terms of the “global” structure of the network** and b) those more “local” actors.

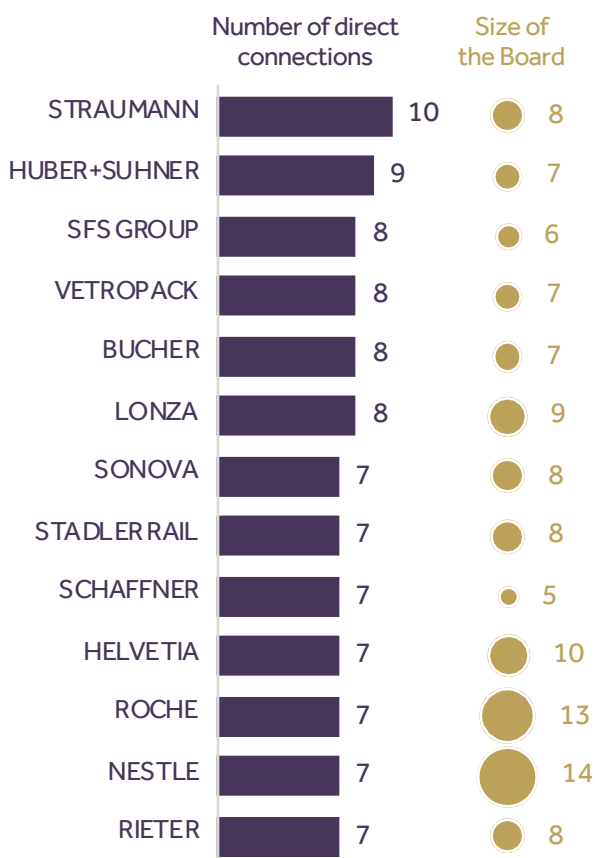


Figure 2: SDN “hubs”: companies with the highest number of direct links.

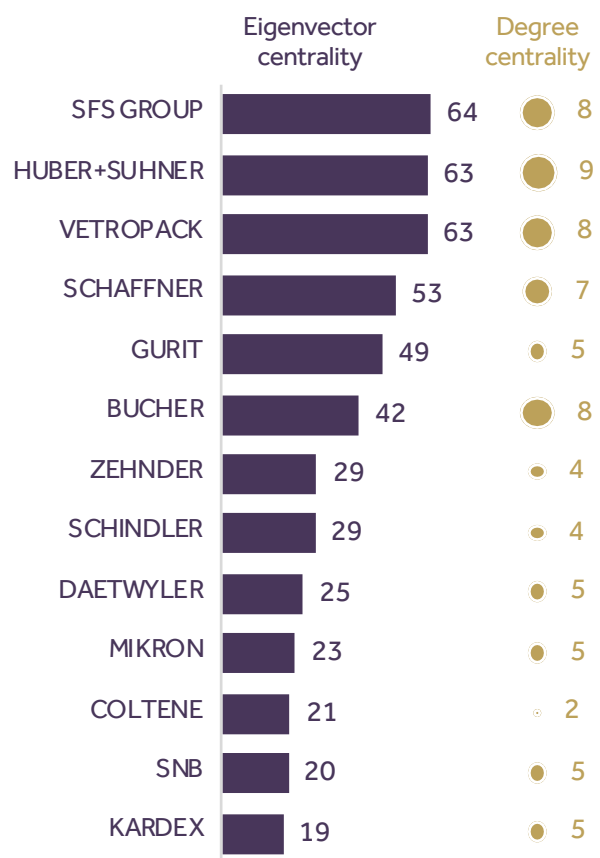


Figure 3: Companies with the highest eigenvector centrality.

⁴ Eigenvector could be considered as a rotation axis with a stable angle/direction no matter how much things around it change.

Another widely used global centrality measure is **closeness centrality**. This measure focuses on the distance of a node to all other accessible nodes. In this manner, it allows for the identification of points of **rapid information diffusion**. These points can be imagined as network **"broadcasters"**. The lower the closeness centrality (i.e. the higher the inverse closeness score), the easier it is for a company to contact all other members of the network. Figure 4 lists such identified SDN "broadcasters".

Even though network "broadcasters" generally enjoy **better access to the information that spreads** through the network, they do not necessarily control the outcomes of such information. The potential of a company to connect to other network members and thus to control information flows is quantified by

another measure: **betweenness centrality**. This is a measure of how many times a node connects to the shortest path between two other nodes. Another way to think about "betweenness" is to ask which relations are most central, rather than which are the network members.

Due to their **advantageous location on communication paths**, nodes with high betweenness centrality scores are in effect network **"gatekeepers"**. As such, they have the potential of significant influence within a network. However, betweenness centrality should be interpreted with care: a high score could point to a board that connects disparate clusters in the network, or a board that is on the periphery of several clusters.

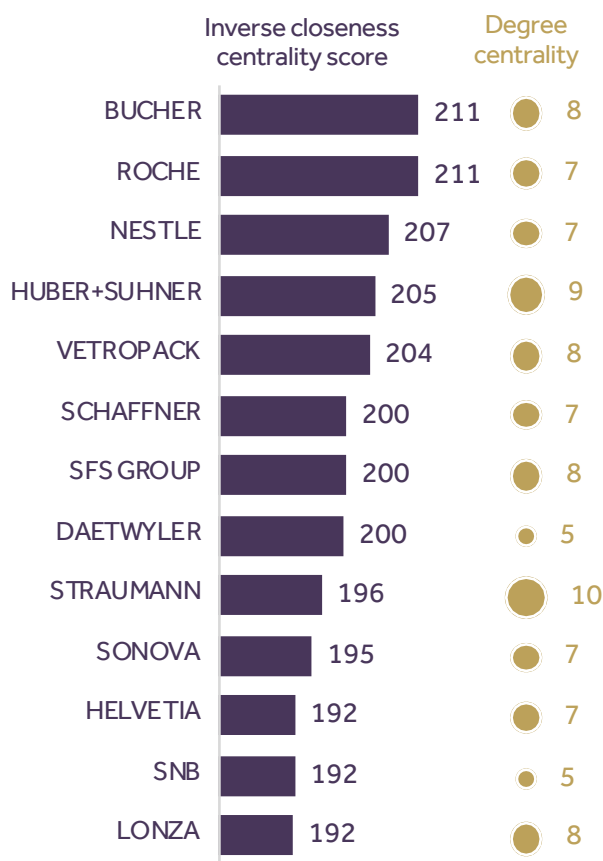


Figure 4: SDN "broadcasters": companies with the highest inverse closeness centrality.

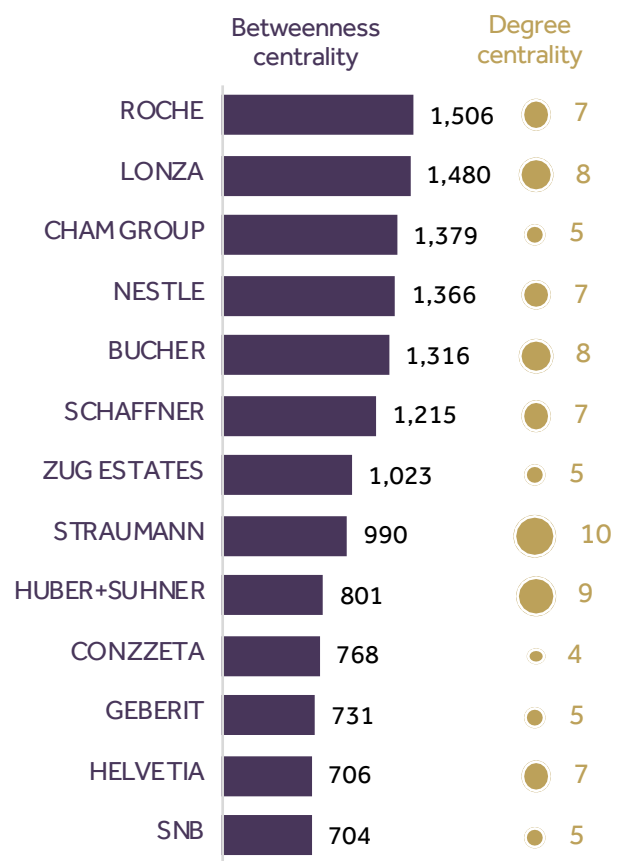


Figure 5: SDN "gatekeepers": companies with the highest betweenness centrality.

Director interlocks: a blessing or a curse?

From the above data, it can be seen that it is not the number of director interlocks per se that is critical, but rather the extent a participant enjoys an advantageous position within the network. The three basic sources of advantage are: high centrality scores on 1) degree, 2) closeness, and 3) betweenness.

However, while privileged positions within a network would suggest higher potential for influence, it cannot be derived from the data alone whether such influence is real. We do not know, for example, how an advantageous positioning affects effective power distribution or whether and how any such power is used.

What we do know is that certain Swiss firms have far more director interlocks and experience more privileged positions within the network than others. This means that the potential is greater among such firms for the exchange of information and for cross-influence. Is this a blessing or a curse?

**“Closeness among key players
could help in the diffusion of, for
example, good governance, pay,
or compliance practices”**

Of course, there may be some risks. High interconnectivity may increase the exposure to potential conflicts of interest or of unintentional or inadvertent exchange of confidential or sensitive information. On the other hand, the interactivity may not be only about gaining business advantage. A closeness among key players could help in the diffusion of, for example, good governance, pay, or compliance practices. The conclusions to be drawn are many and should hence, be put in the context on a situational basis. The data can be helpful in understanding boards networks within Switzerland and the potential different roles that members could play.

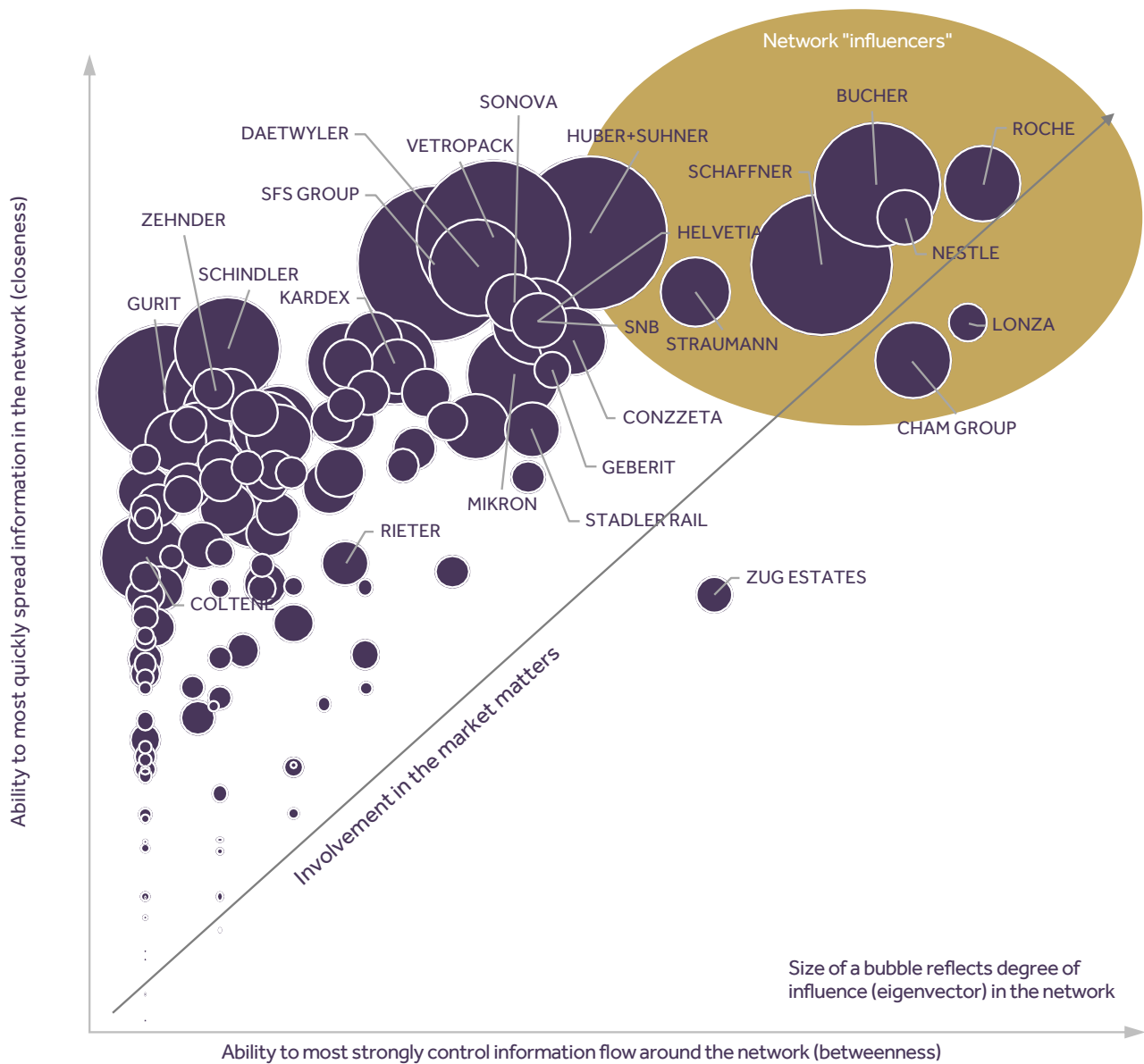


Figure 6: Influencers within the Swiss directorship network.

About HCM International Ltd.

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Since our founding in 2001, we have advised over 350 companies – from global multinationals to companies considering IPOs – across multiple industries and geographies. We also support public and governmental institutions.

HCM's international reach includes our partners firms in the Global Governance and Executive Compensation (GECN) Group (<http://gecn.com>). With our strategically located offices, we service our clients across time zones and provide solutions that are informed by expertise, market practice, research, analytics and surveys across Europe, North America, Asia, Australia and the Gulf area.



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We are highly skilled and tactful at working on the most sensitive matters directly with the boards, board committees, CEOs, heads of group functions, and other decision makers



Sharing knowledge

We are actively involved in research, publishing, speaking, and teaching (e.g. University of St. Gallen, Zurich, Luzern, etc.) in Switzerland and abroad

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