Kaleidoscope Golf Summary

- Kaleidoscope Golf makes it possible to create a multitude of full-scale game routings of various difficulty level – all within an existing standard set of elements (tees and greens).

- Kaleidoscope Golf addresses all major challenges of the modern golf industry:
  - the need to increase golf appeal to create a new attraction point for the golfers
  - the need to gain competitive advantage and increase the profitability of a golf club
  - the need to save natural, financial and human resources

- Kaleidoscope is a major golf innovation. Kaleidoscope Golf concept was patented in the Russian Federation as an invention in 2017. The international PCT application has been published in 2018, and the US patent application has been filed.

- The potential upside of applying Kaleidoscope Golf concept for a golf club is more than 50% increase in revenue.

- Kaleidoscope Golf concept is applicable to 100% of newly constructed and to ~80% of all existing golf courses, and is an across-the-board instrument that can increase a golf course’s appeal to golfers and its financial performance.

- Kaleidoscope Golf concept was implemented at the Mill Creek Golf Course near St. Petersburg, Russia. Mill Creek Golf Course received excellent reviews from golf industry professionals for its unique character and new approach to course design and construction.

- Kaleidoscope Golf can be licensed with flexible royalty payments structured as either:
  - % of upside from applying Kaleidoscope Golf concept
  - % of the golf club’s total revenue
  - fixed periodic payment.
Kaleidoscope Golf

Kaleidoscope Golf example (Mill Creek, Russia)

Approaches to royalty calculation
Kaleidoscope Golf: the new golf course concept

Kaleidoscope Golf concept allows a number of full-scale routings of various difficulty level within one golf course with a standard set of elements.

Traditional golf course: 18 holes – par 72

- **ROUTINGS:**
  - One routing with a stroke index and a score card

- **APPROACHES TO GREENS:**
  - On a traditional golf course it is possible to play from the tee of a certain hole to the green of the same hole
  - Each green has only one approach while other sides of the green are protected by obstacles
  - The number of standard elements are determined by the course architect

- **THE DESIGN UNIT IS THE HOLE. THE COURSE IS DESIGNED SUCCESSIVELY FROM HOLE №1 TO HOLE №18**

Kaleidoscope golf: 18 holes – par 72

- **ROUTINGS:**
  - Several continuous routings on the same course
  - New routings are in line with approved game standards
  - Each new routing can have its own stroke index

- **VARIABILITY OF THE FIRST STRIKE:**
  - Regulated play is possible to at least 2 greens from one or several tees
  - The number of standard elements may stay the same as for traditional golf course with only one routing
  - Greens (at least two) are built in such a way that approach to the greens is possible from at least two directions

- **THE DESIGN UNIT IS AN ELEMENT OF THE GOLF COURSE (TEE, GREEN, FAIRWAY, OBSTACLE). THE COURSE IS DESIGNED REGRESSIVELY TAKING INTO ACCOUNT ALL PREVIOUS ELEMENTS**
Kaleidoscope Golf: relevance for the golf industry

Kaleidoscope Golf addresses all major challenges of the modern golf industry

- Increases attractiveness / creates new attraction point due to the variability of play
- Increases profitability
- Saves valuable resources

KALEIDOSCOPE GOLF: A UNIQUE AND INNOVATIVE CONCEPT
The Kaleidoscope Golf is an invention patented in Russia. Currently the patenting procedure is carried out abroad.

- **PATENT CLAIM:**
  - A golf course which has the traditional number of holes comprised of a set of pre-determined elements – tees, greens, fairways and obstacles, but having at least one tee within a standard playing distance of at least two greens whereby allowing to form new holes that create new routings compliant with existing standards while the number of tees equals the number of greens.

- **TECHNICAL EFFECT OF THE INVENTION:**
  - With the traditional number of pre-determined elements it becomes possible to create different full-length routings within the same golf course which significantly increases the variability of a game and leads to reducing construction costs.

- **INTERNATIONAL (PCT) APPLICATION PUBLISHED IN 2018. US PATENT APPLICATION FILED WITH THE US PATENT OFFICE**

- **PRIORITY DATE: 01 JULY 2016**
Kaleidoscope Golf: increasing attractiveness of the game of golf

Kaleidoscope Golf creates a new attraction point by offering variability of routes to the players and enhancing the competitiveness of golf clubs.

Predictability and lack of variability is the worst enemy of a golfer on a traditional golf course.

Traditional approach to solving the problem:
- Construction of new courses as an addition to existing ones and renovation of existing courses
- Construction of courses with 2-3 variable routings:
  - Golf club The Loop, Silvies Valley Ranch (USA) – have reversible routings
  - Golf club Trilogy (USA) – two different routings on one course
- Fan cross-country tournaments
- New game types on a golf course: FootGolf, FlingGolf and others

KALEIDOSCOPE GOLF:
- The Kaleidoscope Golf is in fact a number of full-scale golf courses within a fixed set of elements of a standard one-route golf course
- Keeps golfers interested in the golf course encouraging them to:
  - play their “home” course more often
  - spend more time in the hotel at a golf resort
  - purchase dwellings in golf communities more willingly
- Eliminates the need for the clubs to spend millions of dollars and dozens of hectares on the construction of several golf courses
- Makes it possible to create short routes for busy people, and more simple or more difficult routes for players with different skill level
- Makes it possible to conduct multiphase competitions with different routes for each phase within the same golf course
**Kaleidoscope Golf: profitability increase**

*Kaleidoscope Golf is the across-the-board instrument that can increase golf courses’s performance*

**Key performance indicators of Kaleidoscope Golf**

**INVESTMENT**
- The cost of construction is comparable to that of a traditional golf course with fixed routing
- The cost of renovation of an existing golf course is estimated to be ~20% of total construction cost

**GOLF COURSE REVENUE**
- The potential upside is ~50% revenue increase due to higher membership numbers / more rounds played or the increase of membership dues / green fees
- Holding more tournaments of various levels due the variability of routings

**OPERATING MARGIN**
- After the club implements Kaleidoscope Golf concept its additional revenue will be actually equal to the additional operating profit since the expenditures for the golf course maintenance and other operating costs will not increase significantly
Kaleidoscope Golf: revenue increase

Due to synergistic effect the actual revenue of a golf club with several golf courses is statistically higher than the calculated product of the revenue of a golf club with only one golf course and the number of the club’s courses.

Revenue of the public* golf clubs in the US depending on the number of courses in the club, 2016

- Actual average revenue of a golf club
- Calculated revenue ($2.3 mln* number of courses in the club)

* Statistics on the 7,790 public golf courses in the USA. Revenue of public golf courses to a lesser degree depends on related and additional businesses (real estate sales, in particular)

Source: US Business Classification Database 2017
Kaleidoscope Golf: revenue increase

The set of three golf courses in a golf club increases the revenue of each course by 30% compared to a club with only one golf course.

One golf course (18 HEQ) revenue dependence on the number of courses in the golf club

<table>
<thead>
<tr>
<th>Number of courses in the golf club (18 HEQ)</th>
<th>0.5</th>
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<th>4 (calculated)</th>
<th>5 (calculated)</th>
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<tr>
<td>Average revenue of one course, $ mln per year</td>
<td>1.40</td>
<td>2.32</td>
<td>2.85</td>
<td>3.02</td>
<td>3.38</td>
<td>3.85</td>
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<tr>
<td>Comparative revenue of one course, %</td>
<td>60%</td>
<td>100%</td>
<td>123%</td>
<td>130%</td>
<td>146%</td>
<td>166%</td>
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</table>

Kaleidoscope Golf with at least 4 routes will increase the golf course’s revenue by 50% or more.

Source: US Business Classification Database 2017
Synergy is an amplifying effect of interaction of two or more factors meaning that the combined action of these factors significantly exceeds the simple arithmetic sum of the actions of each of these factors.

- Compound (synergism) of two or more pieces of radioactive material – when the critical mass is exceeded, their combination gives an energy release that exceeds the emission energy of a simple sum of individual pieces.
- Knowledge and efforts of several people can be organized in such a way that they mutually reinforce each other (for example, a conveyor belt).
- Majority of the ongoing M&A transactions imply synergy and are concluded with a view to obtaining it. For example, the merger of P&G and Gillette companies in 2005 allowed to reduce total costs by $1.2 billion and to increase sales by $750 million per year (by 2008) as a result of the synergistic effect.
- The combined effect of drugs on the human body, in which the joint effect exceeds the action exerted by each component alone – for example, an increased analgesic effect of co-administration of tramadol / codeine and NSAIDs.

Kaleidoscope Golf: revenue increase

Implementation of Kaleidoscope Golf concept will not only increase the revenue of golf business, but also the revenue of all related businesses, including income from commercial and residential real estate

Additional considerations of revenue increase

- Public golf clubs in the United States, which conducted standard re-design and reconstruction of golf courses in 2000–2015, increased their annual revenue by an average of 64% (from 9.5% to 139.5%)

- The average price of a standard room in hotels within walking distance from several golf courses is 42–66% higher (on average 54% higher) than the average price of a standard room in hotels with direct access to only one golf course (by example hotels in the Bahamas and the island of Hilton Head, USA)

- The price of a skipass in ski resorts with a large number of ski routes is 43% higher than the price of a skipass in resorts with fewer ski routes (by example ski resorts in the French Alps)

- The price premium for residential houses with outstanding views located on golf courses can reach 50% compared to similar quality residential buildings located in the neighborhood

Source: Golf Course Industry Magazine, Apr. 2015, JSC Business Valuation Bureau
Kaleidoscope Golf: saving resources

Kaleidoscope Golf allows for significant saving of natural, financial and human resources

1. LAND RESOURCES
   One 18-hole golf course takes an average of 70-80 hectares of land, mostly in commercially attractive areas with high land value.

2. WATER
   One standard size golf course consumes 200,000 to 1,000,000 cubic meters of water per year (depending on climate and the type of vegetation).

3. FINANCIAL RESOURCES
   Investment costs:
   - design, construction, engineering systems
   - Maintenance costs

4. HUMAN RESOURCES
   Professional and service staff
Applicability of Kaleidoscope Golf

Kaleidoscope Golf concept can be applied to most of new and existing golf courses

- FULL-SCALE PLAYABLE ROUTINGS NEED TO COMPLY WITH USGA:
  - the standard course par and the length of each hole
  - continuous route
  - the absence of blind shots (one has to see where the ball should land after every strike)

- WE ESTIMATE THAT THE CONCEPT OF KALEIDOSCOPE GOLF IS APPLICABLE TO:
  - all (100%) newly constructed golf courses
  - ~80% of existing golf courses

- EXCEPTIONS ARE:
  - Golf courses where holes are far away from each other: lined up and / or constrained from both sides by irremovable non-golf obstacles (housing, roads, trees, etc.), including most of parkland-style courses
  - Legendary golf courses which have a clear historical value and strive to keep to the original layout (e.g. Augusta National, Baltusrol Golf Club, Merion Golf Club East Course, Oakmond Country Club, Pinehurst 2 (all in USA), St. Andrews Old Course, Musselburgh Links (United Kingdom))
  - Golf courses with unique landscape characteristics which are visited both for golf and sightseeing reasons (e.g., Old Head Golf Links (Ireland), Trump Links at Ferry Point (USA))
Kaleidoscope
Golf example
(Mill Creek, Russia)
Mill Creek
(Vsevolozhck, St Petersburg, Russia)

Kaleidoscope Golf concept has been implemented at the Mill Creek Golf Course near St. Petersburg, Russia
Mill Creek: Kaleidoscope Golf example

- The construction of the golf course and the lakes began in 2014 and was completed in 2017
- The course has two loops 9 holes each and Links-style landscape
- Designed by architect Ross McMurray (European Golf Design)
- Unique design of the golf course allows several Kaleidoscope routings creating new holes at the account of strikes to different greens from the same tee areas
- The course can be played in reverse order
- Short routings are possible for players with time constraints
Mill Creek: Kaleidoscope routings examples

Mill Creek golf course has several full-scale measured routings with their own stroke indices and score cards...

Kaleidoscope routing #1, 18 holes, par 72, length 6368

Kaleidoscope routing #2, 18 holes, par 72, length 6369

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</table>
Mill Creek:
Kaleidoscope routings examples

...and five short 9-hole par-3 routings

hort routing 2, 9 holes, par 27, length 1280

Short routing 4, 9 holes, par 27, length 1516
Mill Creek: examples of approaches to greens from different tees

*Kaleidoscope creates new holes allowing to play to the same green from different tee areas*
Mill Creek: reviews

Mill Creek golf course has received enthusiastic reviews from golf industry professionals

Mill Creek offers much more than a high quality golf course and it is a testament to the aspirations and enthusiasm of a client who has not been afraid to push the boundaries that traditional golf developments offer. Mill Creek maybe just an 18 hole golf course but it can be a different 18 hole golf course for every day of the week!

Ross McMurray
(Mill Creek architect, European Golf Design)

The results of the entire project team effort are stunning and arguably unique with ”Kaleidoscope” golf concept, the 2 golf courses in 18 holes and ability to be played backwards.

Braemar Golf
(Construction management, Mill Creek)

I have no words to express my admiration with the idea, implementation and the future of this golf club. It is definitely course #1 in Russia. The only and unique course in the world with the Kaleidoscope concept!

V. G. Chebin
(The President of the golf club “Orlanye Kholmy”,
The member of the Executive Committee of the Russian Golf Association)
Approaches to royalty calculation
Kaleidoscope Golf: royalty base and rate calculation

We offer a flexible approach to royalty base and rate calculation

Royalty base and rate options

<table>
<thead>
<tr>
<th>Royalty Base</th>
<th>Royalty Rate</th>
<th>Comments</th>
<th>Applicability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profit Upside</td>
<td>20-25%</td>
<td>The classic “25% Rule” is a tool for determining reasonable royalties in intellectual property licensing negotiations. According to this rule a licensee should pay a royalty rate equivalent to 25% of the expected profits for the product that incorporates the subject IP</td>
<td>Possibility and commitment of a licensee to provide full and true financial statements of golf and related businesses operations</td>
</tr>
<tr>
<td>Revenue</td>
<td>2-4%</td>
<td>Average market royalty rate for invention licenses in comparable industries is 1-3% of revenue and in some cases can be as high as 6%</td>
<td>New construction</td>
</tr>
<tr>
<td>Periodic fixed Payment</td>
<td>FIX</td>
<td>Agreement</td>
<td>No commitment of a licensee to disclose financial statements</td>
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Source: Conclusion on the estimation of the market value of royalty payments for the invention of Kaleidoscope Golf for a period of one year for one golf course; “Business Valuation Bureau” LLP, 2018
Kaleidoscope Golf:
royalty calculation example

If a club’s revenue before Kaleidoscope implementation was $3 mln. per year, then royalty payment calculated as 25% of profit upside will be $375,000 provided 50% revenue increase.

Revenue calculation example

<table>
<thead>
<tr>
<th>Annual revenue, $ mln</th>
<th>Before Kaleidoscope</th>
<th>After Kaleidoscope</th>
<th>Annual royalty payment</th>
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* With Kaleidoscope Golf concept golf club’s revenue will increase either due to the increase of green fee / membership fees or due to the increase in the number of rounds played.

In either case this will not significantly influence the club’s operating costs therefore for the simplicity of this example all revenue upside is considered to be profit upside.
Flexible approach to royalty calculation implies taking into account different factors of a licensee’s operations environment

Factors influencing royalty amount

- New construction
  - Low competition area
    - Golf business only
  - High competition area
    - Standalone golf course
      - Golf and related businesses
    - Combining several courses in one
Action!