

CONTENTS

ELITE SKILLS ARENA & THE ICON

- **ELITE SKILLS ARENA & THE ICON**
- PHYSIOLOGICAL DEMANDS
- 6 EXERCISE PROTOCOL
- 8 RESULTS
- 12 PASSING BENEFITS
- 14 PYSCHOLOGICAL BENEFITS
- 16 CASE STUDY & OVERALL SUMMARY
- 20 REFERENCES & CONTACT INFORMATION

ABOUT ELITE SKILLS ARENA (ESA)

Elite Skills Arena (ESA) was formed in 2014, with the purpose of creating revolutionary training equipment for football. We have spent over 100,000 hours developing our products, with our clients and partners including top professional clubs, professional players and training centres worldwide

All of our products use LED light and vibration software to create targets for players to hit. Different light sequences are programmed as training modes

to work on different attributes. Using our data interface, all scores are tracked and statistics are provided for players. All ESA products are based around the ESA mantra of 'repetition', maximizing training intensity for faster and more pronounced improvement. Professional coaches, both internal and those currently integrated at elite club level, have developed a range of training modes our products, designed to replicate match realistic situations and hone fundamental skills.

ABOUT THE ICON

The ICON is our flagship training arena, used by elite professionals across the globe and statistically proven to dramatically improve player performance.

The ICON uses ESA's pioneering LED lighting technology to generate a competitive and enjoyable environment for training. It is complemented by the exclusive ESA web interface and database allowing for full control over training and the monitoring of improvement.

Progressed with some of the world's top coaches and tried and tested at some of the world's biggest clubs, the ICON creates match specific training for both individuals and small groups, rapidly accelerating development. Depending on the size of the arena, single and multi-player training sessions can be made, and the scoring system provides a truly addictive experience to keep players on the machine.

The ICON's circular design generates a repetition effect producing the same amount of touches in a minute as you would attain in a 90-minute match.

The following case study looks at the overall impact players receive when training inside the ICON. It will look at the effect the session has on the players fitness and technical ability, as well as, looking at the key improvements using the ICON can have on your performance.



PHYSIOLOGICAL DEMANDS OF FOOTBALL

PLAYER STATISTICS DURING A 90-MINUTE MATCH

Within football there are a vast amount of physical aspects a player must go through during a game, this is known as the physiological demands. In addition to this there are also a number of psychological demands, this relates to aspects associated to the mind. Football is considered both an aerobic and anaerobic sport. Aerobic endurance is considered as the ability to perform low intensity exercise for a long period of time. This is dependent on the body's ability to continuously transport oxygen to the working muscles. Anaerobic endurance is considered as the ability to perform exercise without oxygen by which an individual can sustain an intensity level for a short period of time. The most common example of this is performing a sprint in football.

As we know a football match lasts 90 minutes and therefore this requires a high level of fitness in order for a player to compete for the full 90 minutes. Using the energy systems mentioned, a player will cover distances between 10-13 kilometres (km). Around 2-3km of this distance covered will be through high intensity running. From previous research, a common finding is that the amount of sprinting, running and the distance covered is more during the first half and lower in the second half. This is down to factors such as lactic acid and fatigue kicking in prohibiting the muscles to be able to work at the same intensity.

The demands on a player are determined by their position, goalkeepers and central defenders cover the least distance. Central midfield players cover the most distance. This is followed by wingers,

full backs and then attackers. This is based on an average of players within these positions. Individual players may cover more distances than those in other positions. The majority of time playing a football match consists of walking and jogging. Other actions consist of sprinting, tackling, jumping, dribbling, passing and shooting. This shows that there are a number of different physical movements during a game.

Football players perform 150-250 brief intense actions during a game. In addition to this it has been recorded that up to 700 turns occur during a game with around 600 of them being between 0-90 degrees. The number of jumps depends on position however this has been noted to be between 3-27 and tackles can be anywhere between 1-36 again dependent on position. Looking at passing statistics the top players will complete 90-120 successful passes during a game. This again tends to be based on position. The types of physical movements a player makes are largely position dependent. For example defenders will perform a large number of tackles, headers and clearances. Midfield players tend to perform all movements. Strikers will perform the most shots as well as other movements. One physical aspect all players need to be able to perform is the ability to pass the ball.

THE ICON CAN SPECIFICALLY HELP PLAYERS IMPROVE THEIR PASSING ABILITY FOCUSING ON THE DIFFERENT PHASES OF A PASS. THIS THEN CAN HELP IMPROVE THEIR PASSING STATS ON GAME DAYS. AS WELL AS PASSING THE ICON CAN HELP IMPROVE CERTAIN PHYSIOLOGICAL DEMANDS OF THE GAME SUCH AS FITNESS, FIRST TOUCH, TURNING ON THE BALL AND LACTATE THRESHOLD. IT CAN ALSO HELP TRAIN PSYCHOLOGICAL ASPECTS, AS A SESSION IN THE ICON REQUIRES CONCENTRATION, AWARENESS AND MOTIVATION.

A PLAYER WILL COVER DISTANCES BETWEEN 10-13 KILOMETRES (KM)

250 PLAYERS PERFORM 150-250 BRIEF INTENSE ACTIONS DURING A GAME

700 TURNS OCCUR DURING A GAME WITH AROUND 600 OF THEM BETWEEN 0-90 DEGREES

BETWEEN 3-27 JUMPS MAY OCCUR IN A MATCH DEPENDING ON POSITION

TACKLES CAN BE ANYWHERE BETWEEN 1-36 AGAIN POSITION DEPENDENT

120 THE TOP PLAYERS WILL COMPLETE 90-120 SUCCESSFUL PASSES



PSYCHOLOGICAL DEMANDS

PSYCHOLOGICAL DEMANDS

EXERCISE PROTOCOL

THE SESSION WAS PERFORMED IN THE ICON 8M



WARM UP: DYNAMICS

5 MINUTE LIGHT JOG	HIGH KNEES	LEG EXTENSIONS
SIDE STEPS	LUNGES	OPEN THE GATE
HEEL FLICKS	WALKING SQUATS	CLOSE THE GATE

WARM UP: STATICS

HAMSTRING	CALF	GROIN
QUADRICEPS	GLUTE MUSCLE GROUP	LOWER BACK

TRAINING MODE: MAESTRO

ATTEMPT	SCORE (MISSES)	RECOVERY
ATTEMPT 1	74 (5)	1 MINUTE
ATTEMPT 2	79 (4)	1 MINUTE
ATTEMPT 3	76 (6)	1 MINUTE
ATTEMPT 4	81 (8)	

2 MINUTE RECOVERY

TRAINING MODE: PASS FINDER

ATTEMPT	SCORE (MISSES)	RECOVERY
ATTEMPT 1	26 (4)	2 MINUTES
ATTEMPT 2	29 (3)	2 MINUTES
ATTEMPT 3	29 (3)	2 MINUTES
ATTEMPT 4	30 (0)	

3 MINUTE RECOVERY

TRAINING MODE: ARCHITECT

ATTEMPT	SCORE (MISSES)	RECOVERY
ATTEMPT 1	38 (0)	2 MINUTES
ATTEMPT 2	39 (0)	2 MINUTES
ATTEMPT 3	40 (1)	1 MINUTE
ATTEMPT 4	36 (4)	

2 MINUTE RECOVERY

TRAINING MODE: VISION

ATTEMPT	SCORE (MISSES)	RECOVERY
ATTEMPT 1	26 (6)	1 MINUTE
ATTEMPT 2	31 (2)	1 MINUTE
ATTEMPT 3	34 (3)	1 MINUTE
ATTEMPT 4	32 (2)	

COOL DOWN: DYNAMICS

LIGHT JOG	SQUATS	OPEN GATE
SIDE STEPS	LEG EXTENSIONS	CLOSE THE GATE
LUNGES	HEEL FLICKS	

COOL DOWN: STATICS

HAMSTRING	CALF	GROIN
QUADRICEPS	GLUTE MUSCLE GROUP	LOWER BACK



NAME: PLAYER X

AGE: 18

HEART RATE MAX: 220 - 18 = 202

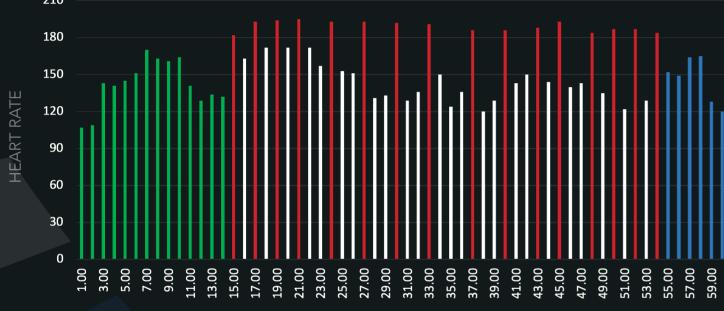
ACTIVITY LEVEL: REGULARLY ACTIVE

ESSION DURATION: 1 HOUR

%	HEART RATE
30%	60.6
40%	80.8
50%	101
60%	121.2
70%	141.4
80%	161.6
90%	181.8
100%	202

RESULTS = IMPROVES FITNESS





MINUTE

Heart rate is a reliable indicator of an individual's fitness. The lower your heart rate during exercise and the quicker the heart can reach a steady state is an indicator of good fitness. These factors can help identify the general fitness of an individual. During a competitive match, 65% of the match is spent within 70-90% of heart rate max and rarely goes below 65%. The graph shows that Player X was working at 91-96% of his heart rate max during the passing exercise drills. Initially their

recovery would drop to 85% however as they reached a steady state and became more settled during the session their heart rate began to drop between 60-70% during recovery periods.

We have compared Player X's heart rate data against a study based on semi-professional football players. Similar heart rates were achieved during a 90 minute football match.

SEMI-PROFESSIONAL PLAYERS		
POSITION FIRST HALF		SECOND HALF
DEFENCE	170 +/- (15)	170 +/- (15)
MIDFIELD	178 +/- (9)	174 +/- (19)
FORWARD	174 +/- (13)	172 +/- (12)

The heart rate of 9 players were monitored during the match, their ages varied from 23 years old to 28 years old. For a 23 year old their maximum

23-YEAR-OLD		
%	HEART RATE (BPM)	
30%	59.1	
40%	78.8	
50%	98.5	
60%	118.2	
70%	137.9	
80%	157.6	
90%	177.3	
100%	197	

An exercise session can be designed to work at the same intensity and recovery periods of a football match. An important aspect to focus on however is the recovery time given after each passing drill.

heart rate would be 197 and for a 28 year old their

maximum heart rate would be 192. Below are the

28-YEAR-OLD

HEART RATE (BPM)

57.6

76.8

96

115.2

123.4

153.6

172.8

192

heart rate percentages for the two ages.

%

30%

40%

50%

60%

70%

80%

90%

100%

To fully reflect the intensity heart rate can be monitored and one study has suggested heart rate rarely drops below 65% but the majority of a football match is spent between 70-90%. At some point during the exercise session Player X dropped below 65% as we gave him longer recovery periods. To help improve their fitness we could ensure they stay at 65% and so we could allow them a recovery period until their heart rate reaches 65%.

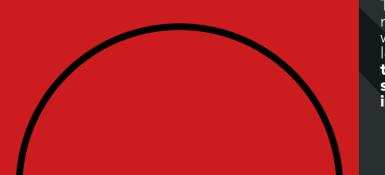
They would then have to continue with the passing drills once they reach 65%. By using the ICON it would in turn allow a football player to improve their fitness. Aerobic high intensity training helps improve the cardiovascular system by increased heart size, improved blood flow and transporting oxygen to the working muscle more efficiently. This enables a greater amount of energy to be supplied aerobically allowing a player to sustain intense exercise for a longer duration and also recover quicker between the drills. This is representative to a match by which you need to recover quickly during phases of a game.

Through improving this system the heart becomes more suited to working at such high intensities to which then it becomes more efficient resulting in lower heart rates achieved. For any player using the ICON regularly to take part in a training session can improve fitness through the high intensity training game modes.

Looking at the heart rates achieved in the heart rate data table and comparing them against the percentages for the player's ages, the players were working between 79% - 97% of their heart rate max. To further compare against Player X's heart rate data, it shows that Player X was working between 60-96% of his heart rate max.

This shows that an exercise session in the ICON reflects similar heart rates of a competitive 90 minute football match. The session Player X took part in his heart rate would be around 90%+ when working and then it would drop during his recovery period. This could also reflect a game scenario in which a player spends periods sprinting to make a run, dribbling with the ball and running to track a player, all these movements would increase heart rate. They will then decrease their workload due to a goal kick, a corner or the ball going out of play, this would give them time to recover as the game slows down.

A CLEAR BENEFIT OF THE ICON IS THAT AN EXERCISE SESSION CAN REFLECT THE INTENSITY OF A COMPETITIVE FOOTBALL MATCH.



Heart rates during a 90-minute match

Consideration needs to be placed upon the skill aspect when trying to improve fitness. If a player is having less recovery time after each attempt it is likely that at first their passing accuracy and efficiency may decrease. However if this continues and they continue to train having less recovery it is likely that it will lead to them improving their passing ability, when the legs become tired. I gave Player X longer recover periods so that he could attempt to beat his previous score set. He was almost able to achieve this each time. Monitoring

Player X's heart rate we could also see the session was working him hard. If we gave him less recovery time it is likely that he would not have beaten his score. The ICON would be used to try improve a player's lactate threshold.

THE ICON CAN BE USED TO IMPROVE PASSING WHEN THE LEGS BECOME TIRED. THIS WOULD REFLECT THE LATTER STAGES OF A MATCH, WHEN TRYING NOT TO MAKE A MISTAKE BECOMES MORE CRUCIAL.



LACTATE THRESHOLD

This refers to the intensity in which a player can perform to, once this intensity has been reached lactate begins to accumulate in the blood quicker than it can be removed. This is commonly known as lactic acid and leads to muscle cramps which stop the muscle from working. Once this occurs a player's performance level tends to drop as they cannot perform to the same intensity they have been working to. A player can use the ICON to train to a high intensity until they reach their lactate threshold. They must then try continue to work as hard as they can pushing their limit till they may cramp or cannot continue at the

intensity. If they continue to do this type of training this in turn would increase the intensity level to which the player can compete at. This then would help them be able to compete better during the final stages of a football match. Through pushing their intensity level whilst practicing their passing to ensure their skill level doesn't drop can help increase performance levels during a match. The player would be less likely to fatigue or cramp up which would help them push themselves and overcome their opponent during the latter stages of a game.



PASSING BENEFITS

ONE OF THE MAIN ASPECTS OF THE ICON IS IMPROVING A PLAYERS PASSING ABILITY.

Each game mode requires a player to successfully perform as many passes as they can within a selected time limit. A vast range of game modes allow a player to improve the different phases of a pass.

Avere you want to play a pass.

Reacting and accurately playing the ball to the intended target.

The ball hitting the intended target and returning back towards you.

Checking the shoulder and knowing where you want to play the next pass or playing another pass first time.

Ensuring you take a good first touch to efficiently play the next pass or playing another pass first time.

Passing a ball is a skill in which every football player needs to be able to perform successfully. With there being no real statistics based on how many passes a player makes during a single game, we have looked at the top player passing statistics from the Premier League 2019/20 season. The top 10 players making the most passes during a match in the league attempted between 70-86 passes per game. This furthers on from research we did in the 2015/2016 season, where we found the most successful passes during a single game the top 10 players achieved, was between 100-120 passes.

The ICON allows you to train to play a pass in a number of different ways. Playing a one two with a target and then finding the next pass. Playing a single pass then taking a touch and playing the next pass. Simultaneously playing one touch passes. Playing passes with the inside and outside of the foot and playing off both feet. This variation in passing helps improve a players passing range as no pass in a football match will ever be the same as the one before.

Through playing the different training modes available a player's footwork will be improved, their touch becomes more effective to set or shift the ball enabling them to play the next pass. Having an improved first touch is the most important factor in ensuring how quickly you play the next pass.

Additionally knowing where you want to play a pass improves where to position your touch, but also whether you need to take a touch and therefore can play a pass first time. I have given a brief breakdown of how each training mode works different phases of a pass.

KNOCKOUT

The idea is the 24 targets will appear and the player has to knock them all out as quickly as possible. This improves a players ability to play one touch passes trying to play the ball as quickly as possible.



MAFSTRO

This game mode is based on choice. The idea is to search for the green maximum points, however if you cannot see a green then you can hit a blue. This makes you think about your pass selection searching for green but also building points quickly playing blues.

TRAINING MODES

PASS FINDER

One target will appear and they have to hit that target for the next one to appear. The training mode offers complete variation and moves the feet most quickly as you have to find the target not knowing where the next pass will be.



VISION

This focuses on playing a single pass but also the next target is available, so you know where you will need to play the next pass. This improves a player's awareness by checking the shoulder whilst also ensuring they improve their touch to set up the next pass. It also tries to get the player to play a pass first time.

The training modes show the variation in passing which is very representative to a game. What will be improved most is the accuracy of passes, with there being targets to hit which represent a player, each pass needs to reach that target. When a pass is played the ball will always return back to the player in which they will need to take a first touch.

In football, players are always taught to try play off one or two touches as this moves the ball quicker. A player's first touch will constantly be trained and improved by practicing setting the touch to play the next pass. This improves footwork and enables them to play passes more effectively.

A session in the ICON will work the legs hard to which they will become tired due to lactic acid and fatigue building up. Similarly this would happen towards the final stages of a game and therefore passing accuracy becomes more important to not give the ball away. The ICON allows you to work the legs harder and improve passing accuracy when they become tired. When the fatigue kicks in a player will find it harder to perform the passes more effectively. By

continuously training the legs to perform passes as quickly as possible when tired at a high intensity will in turn improve the legs resistance to fatigue and lactic acid. The legs will be able to work at a higher intensity for a longer period which can help ensure passing remains accurate and efficient.

As well as the passing aspects it has been highlighted that 600 turns during a game are between 0-90 degrees. When receiving a ball a turn is often performed as part of the first touch. The training modes require turns to be frequently performed to play the next pass. Sometimes turns as much as 180 degrees need to be performed. This improves a player's ability to take a first touch whilst on the turn. It is often taught that if a pass is played from one side of the pitch a player should turn out to switch the play. This in turn can be practiced within the ICON.

The 6 phases above can be continually improved playing different training modes and regularly participating in sessions.

THE MORE REGULARLY A PLAYER UTILISES THE ICON WILL LEAD TO IMPROVEMENTS WITHIN THEIR PASSING ABILITY.

12 | PASSING BENEFITS PASSING BENEFITS

PSYCHOLOGICAL BENEFITS

MOTIVATION

The desire to work and be successful.

AROUSAL

The level of interest and readiness.

EMOTION

Ability to control your mental state.

PSYCHOLOGICAL DEMANDS OF FOOTBALL

CONFIDENCE

The extent to which you belive in yourself.

CONCENTRATION

The ability to maintain your focus.

As well as the physiological demands that have been highlighted football also consists of psychological demands. The chart above highlights some of psychological factors a player goes through when playing football. The ICON can help improve certain psychological factors in relation to sporting performance.

Concentration – The ICON can help improve concentration by the variation in training modes. They must concentrate for the full duration of the exercise to set a good score, to be able to

play each pass as quickly as possible and to be able to find the next pass moving the ball quickly. Looking for a target whilst controlling the ball and passing the ball at the target requires high levels of concentration. Each training mode also requires the player to adapt their game.

Awareness – As targets will appear a player needs to be aware of where that target is. In addition to this some training modes will show where the next target is going to be. This trains players to check their shoulder as they would in a game and

therefore improves awareness knowing where to play the next pass. If a player already knows where to play the next pass they are able to move the ball quickly or even play a first time pass. All game modes require high levels of awareness as you are always trying to identify where to play the next pass as well as controlling and passing the ball.

Motivation – During a football match a player needs to be motivated to work hard to win the game and to win the individual battles against the players they come up against. Each training mode records the number of successful and unsuccessful passes. This enables the player to try beat the previous score they have set. The ICON can motivate players by them being persistent in wanting to beat their score creating that competitiveness. You can also train with a partner in which they can help motivate you or you can try beat one another's scores.

Confidence – Through being able to set scores and participate regularly in the ICON this can grow a player's confidence. The passing modes are designed for high intensity passing which in turn improves quick feet and makes a player feel sharper and ready for performance.

Decision Making – When looking for a pass the quicker a player makes up their mind the quicker they can execute the pass. It trains the player to make decisions quickly which works in sync with awareness. As well as making quick decisions some game modes give you choice and so they have to think about which pass is the right decision.

Factors such as emotions and arousal can only truly be regulated on match days as these are factors you will only feel when going out to play on the day.

TAKING INTO CONSIDERATION BOTH THE PHYSIOLOGICAL AND PSYCHOLOGICAL FACTORS THE ICON TRAINS BOTH ASPECTS OF EACH IN SYNC WITH ONE ANOTHER. THIS REFLECTS MATCH DAY SCENARIOS AS THEY ARE CONSTANTLY HAVE TO CONCENTRATE, MAKE DECISIONS, BE AWARE DURING THE GAME AND MOTIVATE THEMSELVES WHILST PERFORMING A NUMBER OF DIFFERENT ACTIONS. TRAINING MODES WITHIN THE ICON REFLECT THESE SCENARIOS TO WHICH WILL BENEFIT PLAYERS MAKING THEM FEEL READY BOTH PHYSICALLY AND MENTALLY.



PSYCHOLOGICAL BENEFITS
PSYCHOLOGICAL BENEFITS

CASESTUDY

FC GRONINGEN

In the current football environment data feedback from training is crucial to clubs, federations, and training facilities. Using any of the ESA product range, coaches and players can analyze their performance in a quick and understandable format. Many clubs using the products for Individual Development plans or rehabilitation can compare score data and ability under fatigue among other data points.

Alongside this, the scientific proof that new technology aids in the development of young players is crucial to justify the financial and operational decision to purchase such equipment.

ESA and our distributor in the Netherlands, Sports Innovation Partner, created a partnership with Eredivisie club FC Groningen and the University of Groningen, to collect and analyze data from a variety of Groningen players training with the ESA ICON 8M.

A study was performed during the 2018/19 season, with one intervention group, training regularly with the ICON, and one control group who continued their current training regime. Results were collected investigating passing accuracy, look behavior (awareness) and ball touches. Data was collected across a variety of age groups.

SIGNIFICANT RESULTS

Improvements were far more significant within the younger age groups (U12s especially), generally, the younger the player the more they improved in the key data points.

Using the training mode Vision, players 'look behaviour' improved in the intervention group using the ICON product. Look behaviour is defined as: Awareness and ability to get their head up to look for the next pass.

This improvement in look behavior from using the ICON, translated to the pitch, with in game look behavior also increasing in the intervention group.

Players from U17, U19 and U23 reported that using the ICON in short periods was intense and tiring, allowing them to replicate training under fatigue and improve their performance over and above the lactate threshold.

Overall, performance on the ICON in terms of points scored improved for all players in the intervention group. Although other factors are involved, this displays improvements in Pass accuracy, ball control, awareness and performance under fatigue.

"THIS INNOVATION PROJECT, WITH FC GRONINGEN, ELITE SKILLS ARENA AND GRONINGEN UNIVERSITY, GIVES US SPECIFIC INSIGHTS INTO HOW WE COULD IMPLEMENT THESE KIND OF TRAINING METHODS TO ENHANCE OUR FOOTBALL PROGRAM."

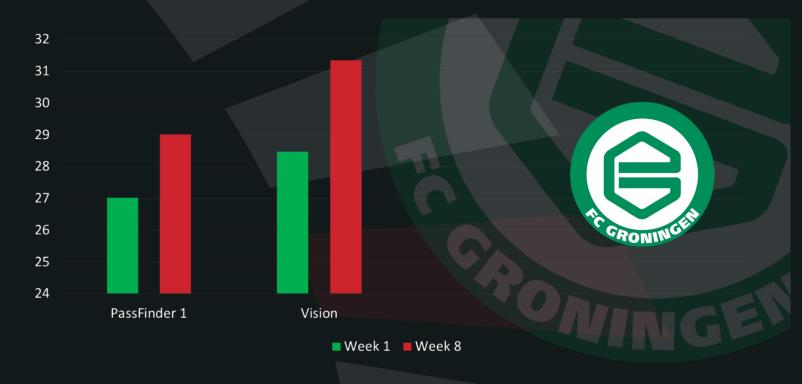
WOUTER FRENCKEN

6699

HEAD OF PERFORMANCE, FC GRONINGEN

The below bar graph shows an increase between measurement moment 1 (Week 1) and measurement moment 8 (Week 8) for the number of good passes during both PassFinder Training and Vision Training. On a descriptive level it seems there is an improvement on average across all players in their passing accuracy after training with the ICON for an 8 week period.

AVERAGE SCORES IN INTERVENTION GROUP ON THE ICON IN WEEK 1 & WEEK 8



"THE ICON HELPED ME AS A PLAYER TO IMPROVE MY AWARENESS AND DEVELOP LOOK BEHAVIOUR AND PASSING ACCURACY DURING MATCH SITUATIONS."

TOM VAN DE LOOI; FORMER MIDFIELDER FROM FC GRONINGEN, NOW WITH BRESCIA



SUMMARY



THE ICON CAN BE USED TO IMPROVE FITNESS LEVELS WORKING AT A HIGH INTENSITY, WHICH LEADS TO IMPROVING THE TRANSPORT OF OXYGEN AND BLOOD FLOW WITHIN THE MUSCLES.



THE ICON OFFERS COMPLETE VARIATION IN HELPING IMPROVE A NUMBER OF DIFFERENT ASPECTS ASSOCIATED WITH A PASS. IT IMPROVES ACCURACY, FOOTWORK, FIRST TOUCH AND PLAYING OFF BOTH FEET.



THE ICON CAN BE USED TO TRAIN LACTATE THRESHOLD. THIS WILL LEAD TO BEING ABLE TO COMPETE AT A HIGHER INTENSITY.



A PLAYERS REACTIONS WILL BE IMPROVED, REACTING TO WHERE THE TARGETS ARE AND HOW THE BALL RETURNS TOWARDS THE PLAYER.



THE ICON IMPROVES HOW A PLAYER RECEIVES A BALL IMPROVING TOUCH BUT ALSO BEING ABLE TO TURN ON THE BALL AT DIFFERENT ANGLES.



PSYCHOLOGICAL FACTORS ARE ALSO TRAINED WHEN USING THE ICON. THE MIND IS CONSTANTLY BEING WORKED THROUGH HAVING TO CONCENTRATE, MAKE DECISIONS, BE AWARE OF TARGETS AND TO MOTIVATE THEMSELVES TO DO WELL.

TO SUMMARISE, TRAINING IN THE ICON DOES NOT ONLY IMPROVE YOUR TECHNICAL ABILITY, BUT ALSO PROVIDE YOU WITH A GAME REALISTIC SCENARIO WHICH TESTS YOUR FITNESS AND MENTALITY TO MATCH STANDARDS. THE ICON, IN SHORT TRAINING MODE DURATIONS OF ONE OR TWO MINUTES, WILL EMULATE A FULL-90 MINUTE MATCH BY RAISING YOUR HEART RATE AND INCREASING YOUR LACTATE THRESHOLD. FURTHERMORE, THE ICON WILL TEST YOUR TECHNICAL AND MENTAL ABILITY WHEN THE BODY BECOMES TIRED, WHICH WILL IMPROVE THE OVERALL STANDARDS OF THE PLAYER.



REFERENCE LIST

ELITE SKILLS ARENA CONTACT INFORMATION

Below are a number of articles and books we have used to gather information relating to the case study.

Ali, A. and Farrally, M., 1990. Recording Soccer Player's Heart Rates during Matches. Journal of Sports Science, 9 (2), 183-189.

Atkinson, M., 2015. Mental toughness and hardiness at different levels of football. Sports Psychology and Coaching. Hamburg: Anchor Academic Publishing.

Bangsbo, J., 2014. Physiological Demands of Football. Gatorade Sports Science Institute, 27 (125), 1-6.

Da Silva, A. D., 2012. Heart Rate Monitoring in Soccer: Interest and Limits During Competitive Match Play and Training, Practical Application. Journal of Strength & Conditioning Research, 26 (1), 2890-2906.

Favero, T., Drust, B. and Dawson, B., 2015. International Research in Science and Soccer II. Oxon: Routledge.

Ghost, A. K., 2004. Anaerobic Threshold: It's Concept and Role in Endurance Sport. Malaysian Journal of Medical Science, 11 (1), 24-36

Laia, F. M. and Rampinini, E., 2009. High-Intensity Training in Football. International Journal of Sports Physiology and Performance, 4 (1), 291-306.

Laia, F. M., Rampinini, E. and Bangsbo, J., 2009. High-Intensity Training in Football. International Journal of Sports Physiology and Performance, 4 (1), 291-306.

Maughan, R. J., Burke, L. and Kirkendall, D. T., 2010. Nutrition for Football. Switzerland: Federation International Football Association Member Associations and Development.

Mohammed, M. and Deshpande, M., 2013. Effect of Football Training Program on Technical Performance of Short Passing and Receiving the ball of Maharashtriya Mandals Pune Vyayamshala Players. International Journal of Science and Research, 4 (7), 1861-1867.

Osgnach, C., Poser, S., Bernardini, R., Rinaldo R. and DI Prampero, P. E., 2009. Energy Cost and Metabolic Power in Elite Soccer: A New Match Analysis Approach. Medicine and Science in Sports & Exercise, 170-178.

Rowan, A. E., Kueffner, T. E. and Stavrianeas, S., 2012. Short Duration High-Intensity Interval Training Improves Aerobic Conditioning of Female College Soccer Players. International Journal of Exercise Science, 5 (3), 232-238.

Salvo, V. D., Gregson, W. and Drust, B., 2009. Analysis of High Intensity Activity in Premier League Soccer. International Journal of Sports Medicine, 30 (1), 205-212.



Address

Elite Skills Arena 25a Ringwood Road Poole Dorset United Kingdom BH14 ORF

Email

info@eliteskillsarena.com

Phone

+44 (0) 1202 701673 +44 (0) 1202 671173

Website

www.eliteskillsarena.com

Social

@eliteskillsarena (facebook)@eliteskillsarena (instagram)Elite Skills Arena (linkedin)@ESA_UK (twitter)Elite Skills Arena (youtube)











RESEARCH AND FINDINGS CONDUCTED BY LUKE ROBERTS ON BEHALF OF ELITE SKILLS ARENA (ESA).



REPETITION ACCELERATES PERFORMANCE

ICON CASE STUDY