

**13th International Association for Sport Information World
Congress
11-13 March, 2009 - Canberra, Australia**

Panel discussion :

Video and Digital Asset Repositories in Sport – a look at three leading international digital asset management solutions from Japan, Germany, and Australia.

Prof. Chikara Myaji
Japan Institute of Sport Science

Dr. Hartmut Sandner
Institute for Applied Training Science
Leipzig, Germany

Claire Short
NSIC Audio Visual Services Manager,
Australian Sports Commission



Australian Government
Australian Sports Commission



AUSTRALIAN
INSTITUTE OF SPORT

13th IASI World Congress

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*Building and sustaining sport information communities -
through connectivity, collaboration and sharing*



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Prof. Chikara Myaji

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13th IASI World congress : Panel discussion-Video and Digital Asset Repositories in Sport; SMART-system

Thursday, 12 of March, 2009

15:30-17:30

Chikara Miyaji

Japan Institute of Sports Sciences

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Japan Institute of Sports Sciences

SMART is an acronym of

Sports **M**ovement

Archiving and **R**equesting **T**echnology **s**ystem

- SMART was developed at JISS
 - 2003, 2004: Basic Design and Development
 - 2005: Finished Beta version (IASI world congress 2005)
 - 2006: Start Trial Use with several Sport Federations
 - 2007: Open to National Sport Federations
 - 2008: Used for Beijing Olympics
 - 2009: Used for Vancouver Winter Olympics and more...

Streaming server

JISS meta-data servers

Streaming server

User server

Search server

Movie server

Logging server

Authenticate gateway

Authenticate gateway

The screenshot shows the SMART-Viewer application interface. On the left, there is a 'シーンリスト' (Scene List) table with columns for '対戦' (Opponent), 'セット' (Set), and 'ラウンド' (Round). The main area is a video player showing a badminton match. On the right, there is a search results table with columns for '名前' (Name), 'チーム名' (Team Name), '大会名' (Tournament Name), '種目' (Event), and 'ラウンド' (Round).

名前	チーム名	大会名	種目	ラウンド
ABEL Brodie / CLIP Janet / HOCHEN Kate / XINES Chr...	United States	Olympic Games Beijing 2008	Team	Free Routine
AMERGER Eloise / BENTLEY Coral / BOMBELL Sarah / ...	Australia	Olympic Games Beijing 2008	Team	Free Routine
ABDALAZEM Hossni / ABDELATTAH Azza / BADRANI Ha...	Egypt	Olympic Games Beijing 2008	Team	Free Routine
BOYKOREV GAVRILA Ivan-Peter / DUBUC Jessica / GAUDY...	Canada	Olympic Games Beijing 2008	Team	Free Routine
GU Beibei / SHANG Tingting / JIANG Women / LI / LUO...	China	Olympic Games Beijing 2008	Team	Free Routine
ADRI AJI HARADA Sora / KAWABE Rina Naoko / FUKUDA...	Japan	Olympic Games Beijing 2008	Team	Free Routine
CABELLO Alba Maria / CORRAL Raquel / FUENTES Andr...	Spain	Olympic Games Beijing 2008	Team	Free Routine
DEVINOVA Anastasia / ERMAKOVA Anastasia / GRIGOR...	Russian Fed.	Olympic Games Beijing 2008	Team	Free Routine

SMART-viewer

Statistics of SMART till March 2009

Sport	Files	Users
Judo	9581	57
Speed Skate	5851	128
Moguls	5513	38
Synchronised Swimming	4034	89
Swimming	3421	8
Ski Cross	1525	18
Volleyball	582	51
Table Tennis	551	11
Total	32649	553

SMART-system is used to ...

- Archive world class competitions
 - Share videos on the Internet with coaches
- Give quick feedback at the competition
 - Check athlete's performance immediately
- Record usual training
 - Share training with remote coaches
 - Make training history archive

Quick feedback for Synchronised Swimming

Capture and encoding



Underwater camera



Above water camera

Streaming Server
copy



Show on PCs

At the video feedback booth



Spanish Duet checking their performance



Log file tells how many times they use SMART. This is Judo Log.

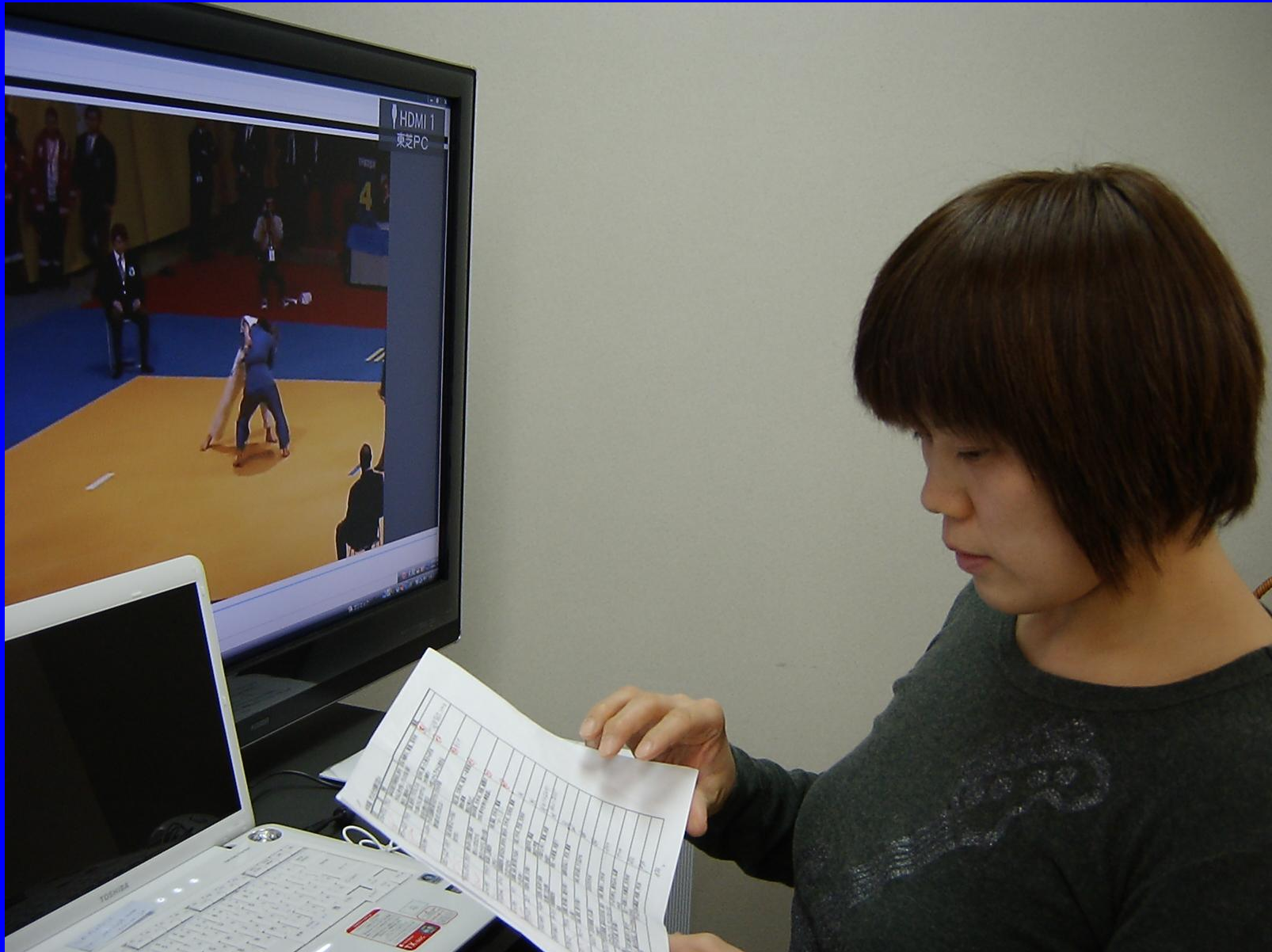
6月のログ	2	3	4	5	11	12	14	18	19	20	21	23	24	25	26	27	30	合計
三井住友	0	44	197	0	0	9	0	0	402	524	634	213	403	727	136	14	285	3588
SOGABE Shinya	0	0	0	0	0	0	0	0	0	0	0	0	0	218	0	0	0	218
福見 友子	0	0	86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	86
YAMAMOTO Yusuke	22	0	2	2	0	0	16	0	0	0	32	0	0	0	0	0	0	74
KANAMARU Yusuke	0	0	0	0	0	0	0	0	0	0	0	0	9	0	33	0	0	42
SATO Shinichiro	0	0	4	14	0	0	0	6	0	0	0	0	0	0	0	0	0	24
NAKAMURA Isamu	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
平岡 麻美	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8
田知本 愛	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2

- One women club team uses SMART very much
 - Especially between May to July 2008

Coach's Strategies to use video

- Prohibit passive video watching
 - “No couch potato watching”
- Force **Active video watching**
 - “Make the list of opponent's techniques”
 - “Think how to react to the opponent technique”
 - “Watch with her partner to simulate opponent's style”

The club's top player: Ms. Ueno explains how they use SMART.



Her memo note

★70KG級 オリンピック出場者(北京)★

名前	国	特徴	技	備考
エマネ・ギブリス	フランス	基本は右組だが両袖を絞る。釣手をきられる。受けが強い、バランスが良い 腰を引く、肩襟を持ってふる	両方の低い袖釣り、背負、双手刈 裏投げ	(E1) うかつな肩投げ(セカミ)
ロウシー・ロンダ	アメリカ	左組、奥を持つ、グネグネしている そっと組んでくる、技をつなげてくる 絞りあうと間合いが遠くなる	低い大内刈、絞った所から朽木 大外刈、袖釣り 十字固は上から下から攻める	(E2)
メサロス・アネット	ハンガリー	がっばり左奥襟背が高く手足がでかい 動きは遅いほう、ばたばたしない	大外刈、内股	(E3) セカミ
スカピン・イレニア	イタリア	右組、体が硬くスピードがある 技がうまい、	燕返、足技、大内刈、体落、一本背負 肩襟から肩車 寝技は三角など。	(E3)
ボッシュ・エティス	オランダ	襟から持って左奥襟、長身 襟をふってばたばたする 腰を引いたりもする、間合いが遠い	捨身の体落、大外刈、内股、組際の 大内刈、背中を持ち帯取返し	(E5)
スモール・ナタリア	ウクライナ	背は高い、右奥変形 よくきれる	内股、隅返、大外刈、肩車 わし下指	(E6)
イグレスアス・レイレ	スペイン	左組奥襟変形、組手はきる、釣手きる ばたばたするかも	巻き込み、大外刈、大内刈、肩車	敗
ホーム・アネット	ドイツ	左奥襟、長身、懐が深く力もある がっばり持つ	内股、大外刈、巴投、大内刈	敗
クジナ・ユリア	ロシア	右変形、奥襟、力が強い	組際の朽木、隅返 寝技は十字固	敗 肩にマミ投出せず!
ジャクエス・キャザリン	ベルギー	左変形、奥も持つ長身 低く構えて足を開く	十字固が上手い、肩車、内股 技を返す	敗 手取の返せず!
ピロチック・カタルジナ	ポーランド	右組奥襟変形 長身	背負、一本背負、内股?	敗
アグイアル・マニラ	ブラジル	左奥襟、背が高い、動きが早い 少し黒い	組際の足払い、朽木、肩車	(E4)
ヘルナンデス	キューバ	右組、奥襟、受けが強い	内股、技を返してくるかも	(E4)
アルビール・ユリ	コロンビア	左右の奥襟、少し黒い 力強そう	左右の大外刈	(E4)
アウエルダン・ラチダ	アルジェリア	左右の奥襟、基本は右の技、長身 ばたばたしてくる、すこしぐねってる	内股、背負い、大外刈	イリア
マンディ・キセル	セネガル	左がっばり奥、背が高い 黒人	がっばり持ち、巻き込み、払腰 小外刈	アフリカ
ハク・ガヨン	韓国	右組、たまに奥も持つ、受けが	低い一背負い、外無双 大内刈	(A1)

Video system should

- Fit various Sports Federation's needs
- Not interfere coach's activities
- Enhance athlete's active watching



Video application at the Institute for Applied Training Science Leipzig (Germany)

Basic approach, questions, examples

An institute of the association
IAT/FES of the DOSB

supported by



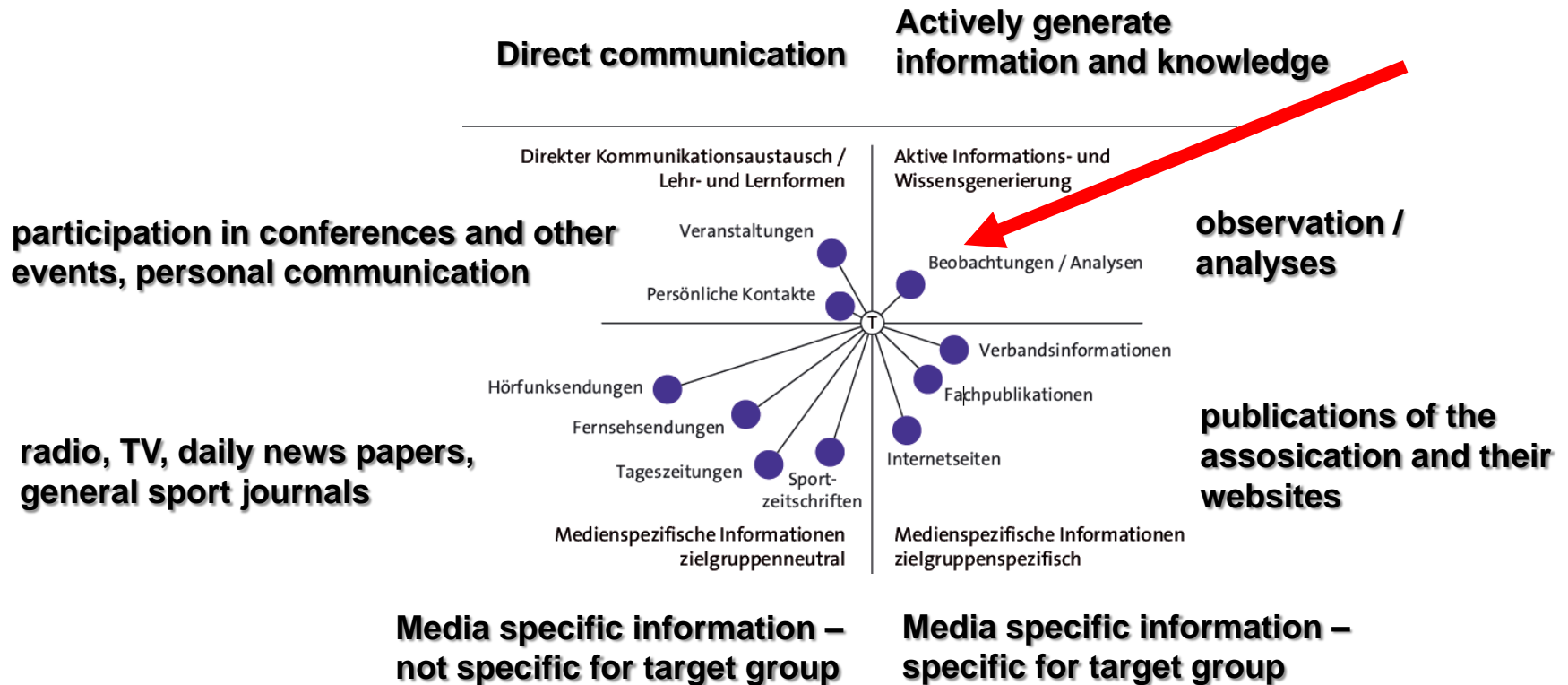
Federal Ministry
of the Interior

Hartmut Sandner
Institute for Applied Training Science Leipzig

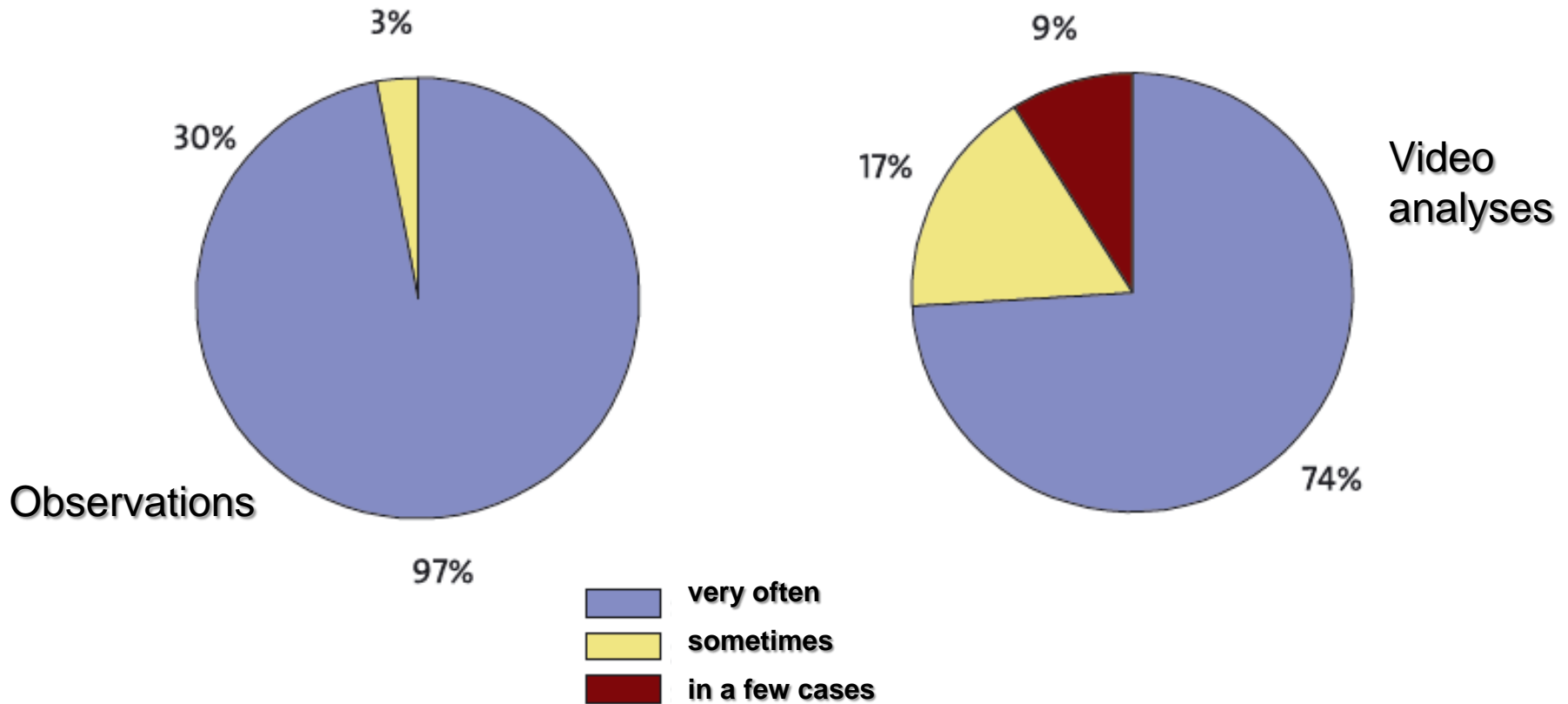


Muckenhaupt study on coaches' information behaviour (2008)

Which information sources have the biggest impact on coaches' daily work?

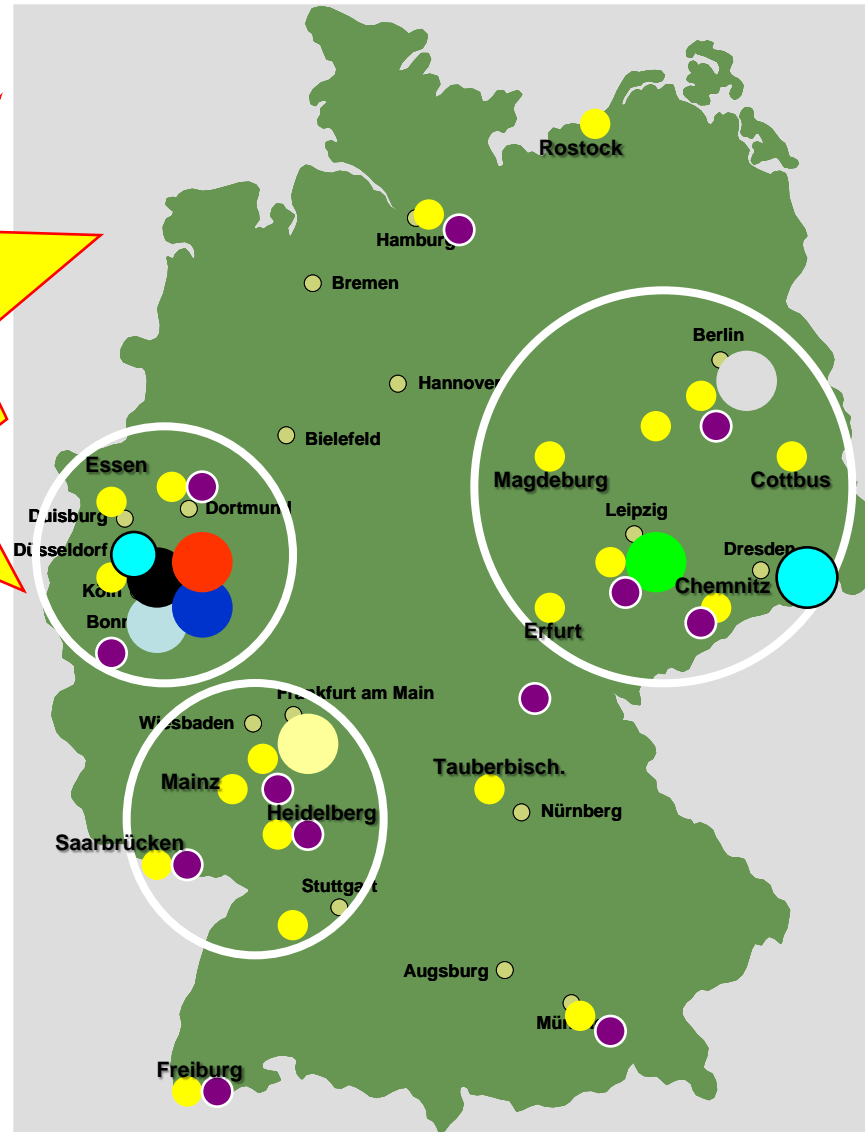


How often do coaches apply video analyses and observations?

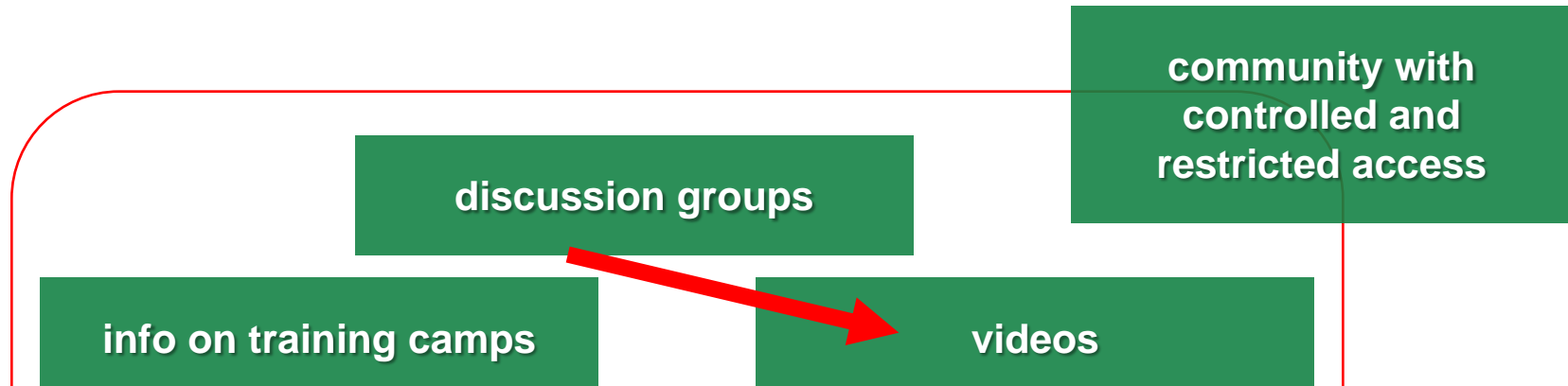


Q 1: Is there a national video storage in German elite sport?

**NO
resp.
NOT
YET**



- BMI** ●
- Fed. Inst.** ●
- Coach. Acad.** ●
- Sport Uni** ●
- Sport Fed.** ●
- IAT** ●
- FES** ●
- OTC** ●
- Unis** ●
- DKL** ●



Some important questions:

What general approach?

What purposes? Training, research, education.....

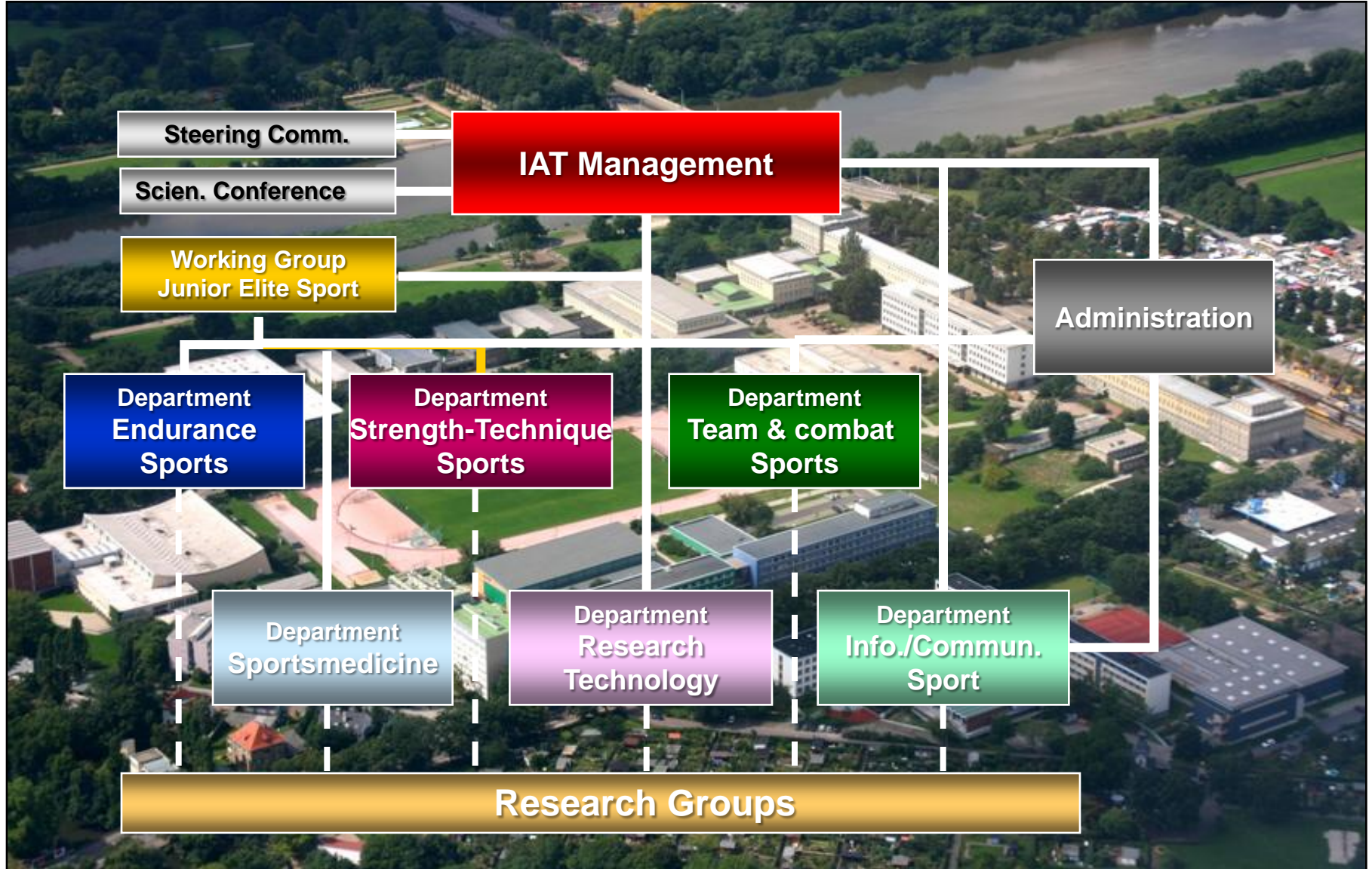
Who will have access?

Centralized video storage – SPIDAR

Manage a decentralized video storage – SMART

Secure environment, coaches and scientists can trust!

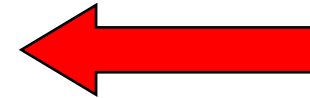
The example of the IAT Leipzig



Major fields of application

Sport specific applications

- Competition analysis
- Training analysis
- Video (+ computer) based training intervention
- Coaches' training

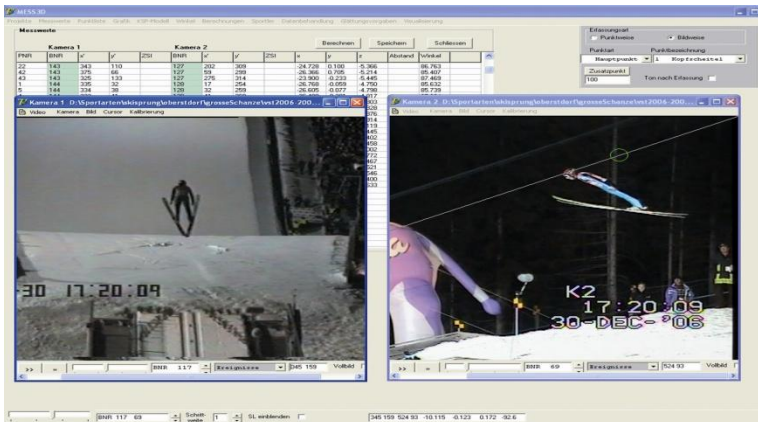


General applications

- Regular orthopedic and sportsmedical checks

Basic approach to video technology

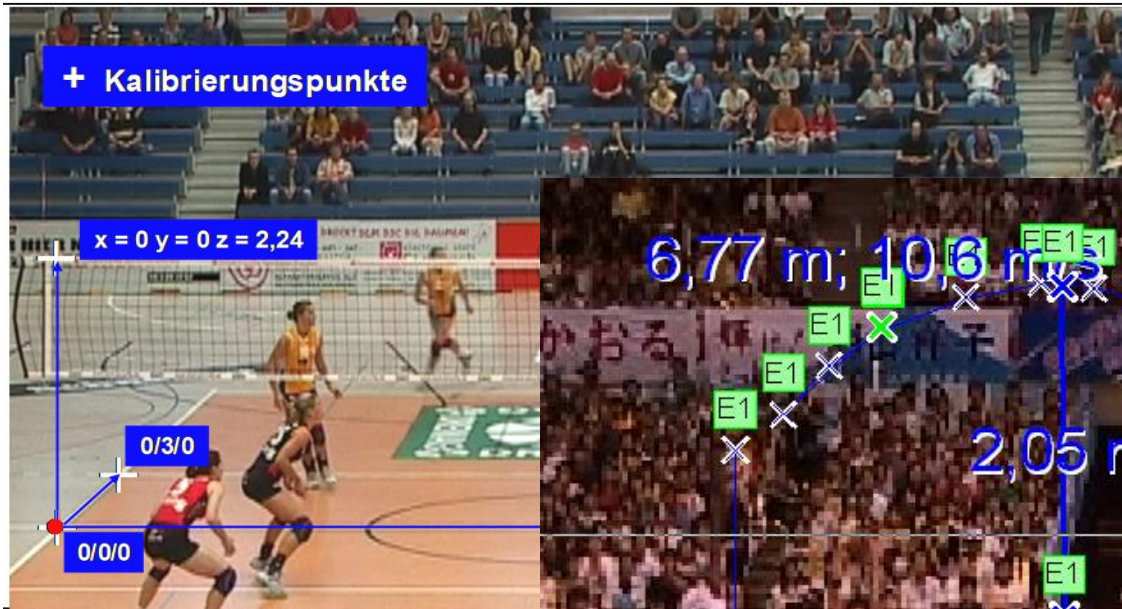
- Video application to serve sport specific research and training purposes
- Commercial technological solutions
- Professional solutions developed in cooperation with the IAT
- Sportspecific IAT-solutions



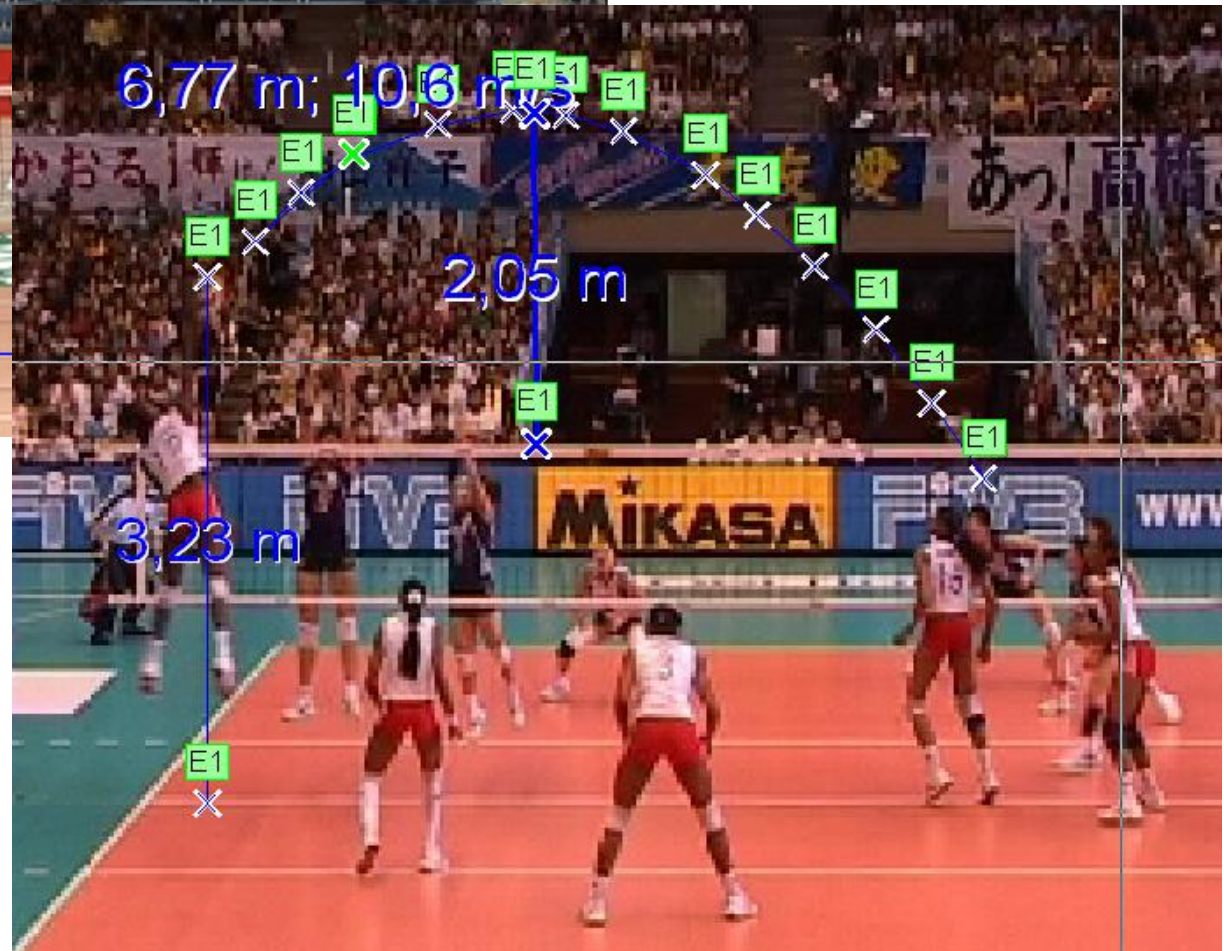
utiliusSmartmark

Record any „live“ event during the training or competitions. Precisely, complete, and without attracting attention: with a handy Pocket PC and the analyzing system utilius® smartmark playing together with the video information system utilius® vs. The category systems are customizable. Categories or symbols can be arranged for particular events easily on a graphic surface, e.g. on a field true to scale.

The example of volleyball - Easyinspect

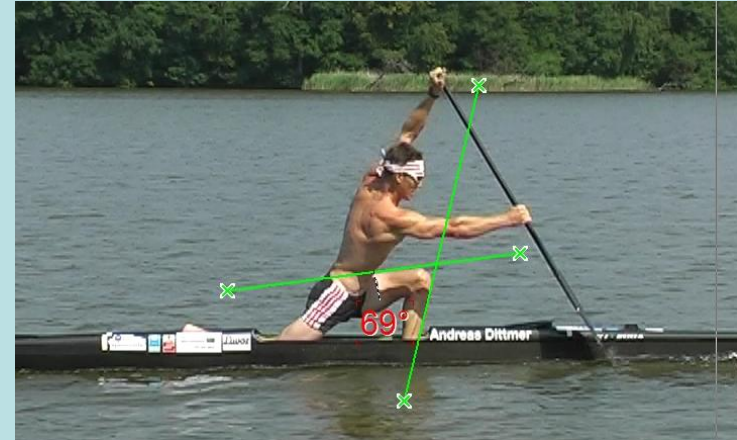
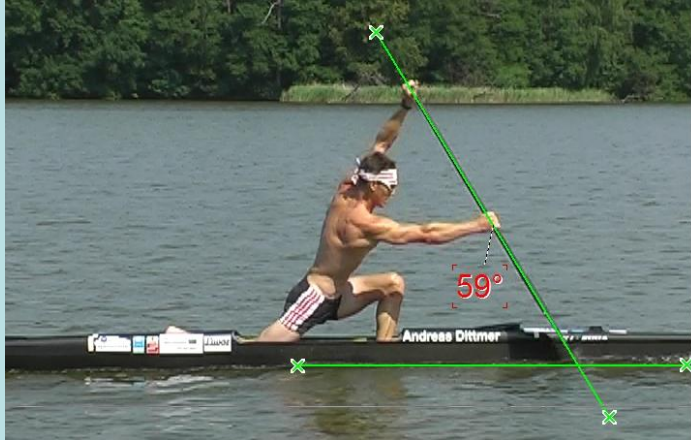


calibration

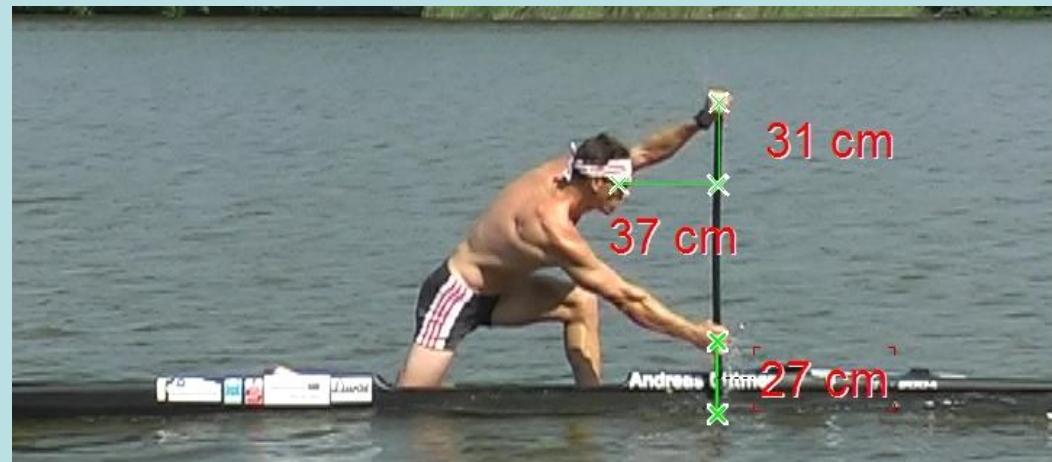


**Competition analysis –
action height of the
world’s best female
volleyball server
Calderon (CUB) – height
of the net 2.44 m –
height of the service
3.23 m**

The example of flatwater canoeing - Easyinspect



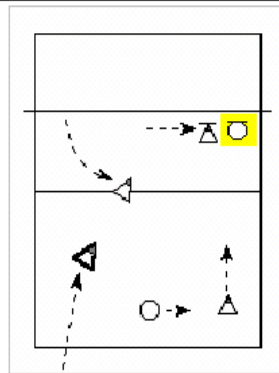
**Measuring
angles and
distances under
field conditions**



Variable Blocktaktiken (WM 2002 Damen)

Im Detail fiel auf, dass die klassische Positionsbindung (AA P4/MB P3/Z-D P2) als ausschließliches Schema durchbrochen wurde. Als exemplarisches Beispiel (siehe Abb.) dafür steht die Einordnung der italienischen Zuspielerin Lo Bianco beim Block gegen hohe Angriffe auf Pos. 2 (normale Einordnung als Außenspielerin in den Zweier- und Dreierblock; Positionswechsel beim Zweierblock mit der Mittelblockerin nach Abspiel der gegnerischen Zuspielerin; Außenangreiferin und Mittelblockerin bilden den Zweierblock auf Pos. 2, Zuspielerin löst sich zur Nahsicherung von der Netzposition).

Ähnliche Taktiken nutzt Holland, um die Bl mit flexibleren Verhaltensweisen der Block

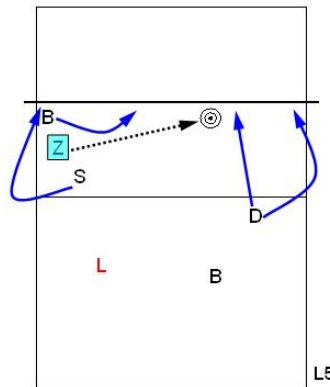


WM 2002 ITA Block-Feldabweh

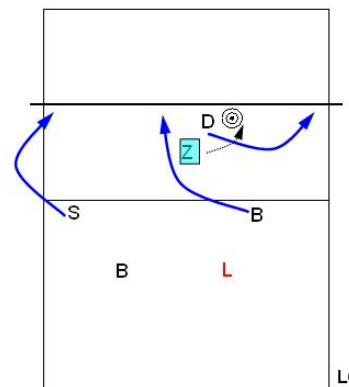
New playing strategy in junior elite volleyball

Information on tactical behaviour of volleyball teams

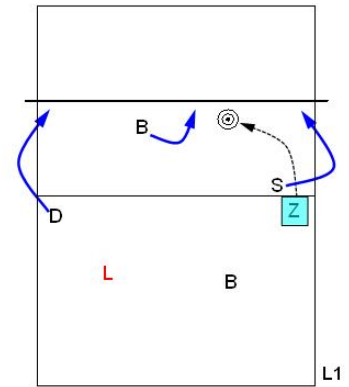
Neue spielkonzeptionelle Ansätze im Anschlussbereich weiblich: JNM UKRAINE EM 2004



UKR KI L5



UKR KI L6

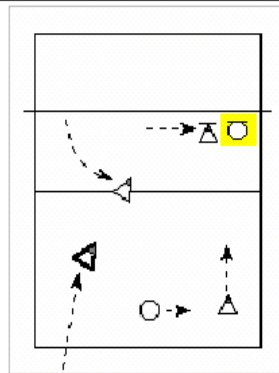


UKR KI L1

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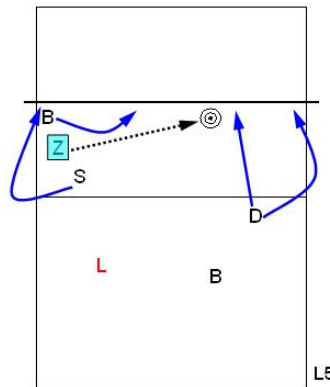


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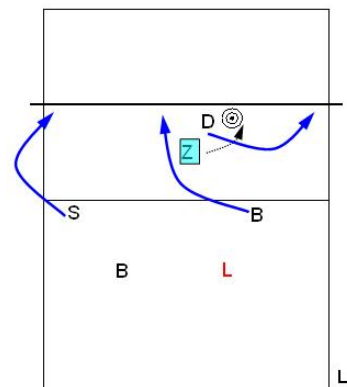
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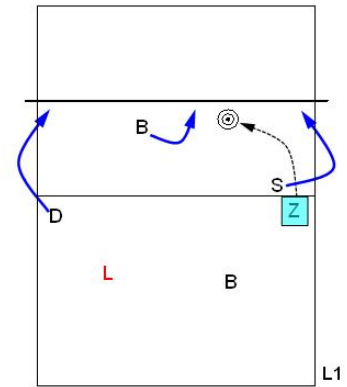
Neue spielkonzeptionelle Ansätze im Anschlussbereich weiblich: JNM UKRAINE EM 2004



UKR KI L5

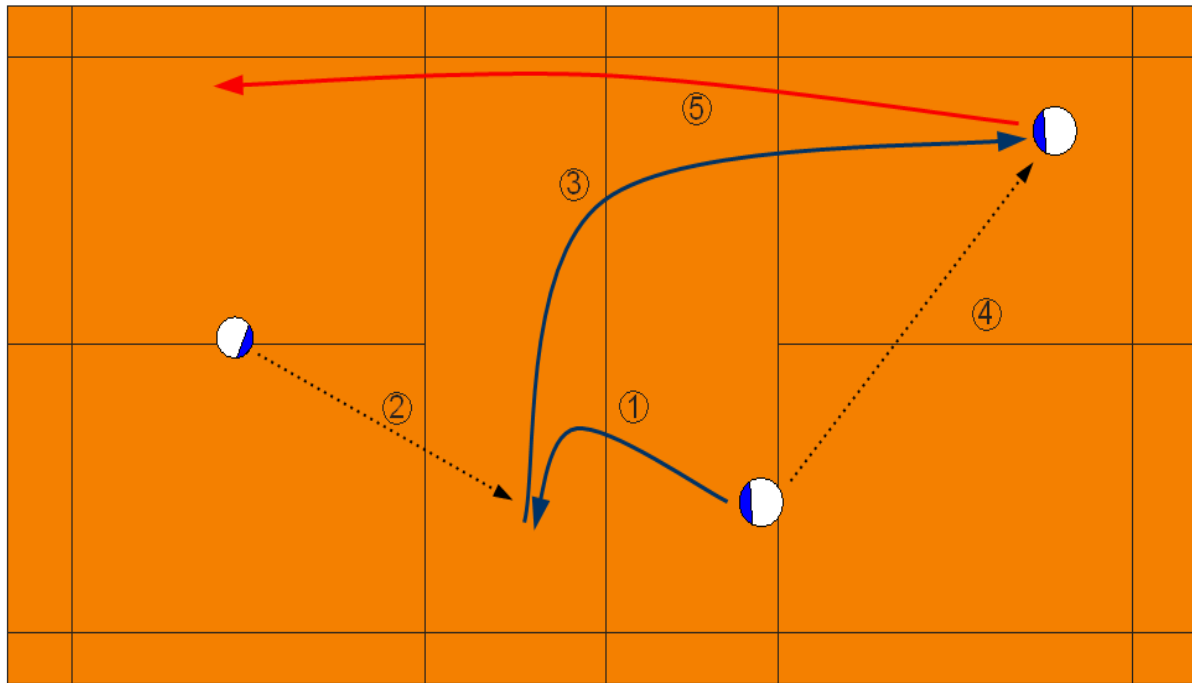


UKR KI L6



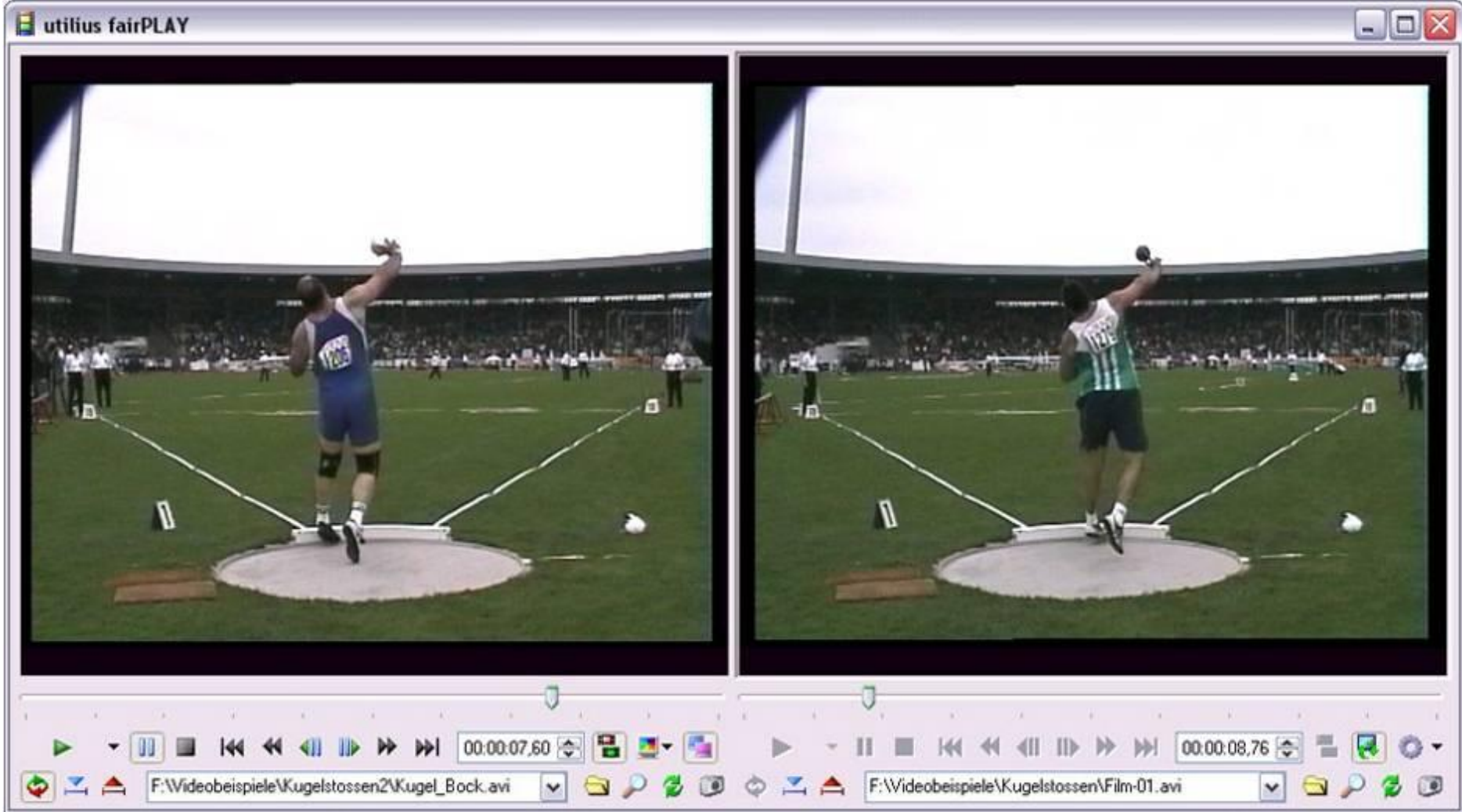
UKR KI L1

Linking video with graphics



Vorbereitung Finaler Schlag "Smash".wmv

The example of shotput - Fairplayer



Hockey – defense against corner shots

Präsentation Hockey_End

Analyse und Auswertung der Strafecke im Hockey
(Entwurf eines Modellkonzeptes)

Mittels Utilius VS[®] konnte im folgenden Teil der internationale Eckenfundus festgehalten werden. Als Vorlage diente aktuell aufgenommenes Videomaterial der Herren Weltmeisterschaft 2006 in Mönchengladbach. Diese Analyse mit zugehöriger Auswertung ist lediglich der Entwurf eines Modellkonzeptes. Die Komplexität der Strafecke könnte auf eine solche Weise aufbereitet und präsentiert werden. Des Weiteren wurden anhand dieser Arbeit verschiedene Fragestellungen aufgeworfen und Ansätze zur Optimierung von Utilius VS[®] sichtbar.

Präsentation Hockey_End

Eckenabwehr 2:2 ins argentinisch

Präsentation Hockey_End

1.9 Videosequenzen Eckenabwehr

Eckenabwehr	3:1 ins 3:1	3:1 ins 2:2	2:2 ins 2:2	2:2 ins 3:1	Verh. 2:2	3:1 ins 2:2 verh.	3:1 ins arg.	2:2 ins arg.
Videosequenzen								
Video	1.	2.	3.	4.	5.	6.	7.	8.

Investing into good video scouts as early as possible!





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