

**GOOD GAME!**<sup>®</sup>  
NEW DEAL FOR SPORT

# **Report REF-EVAL<sup>®</sup> Level 2**

**France 28-29 South Africa  
2023/10/15**

**Competition: Rugby WORLD CUP France 2023**

**Report Publication Date: 2023/10/16**

## TABLE OF CONTENTS

---

<b>Part 1 :</b>	REF-EVAL <sup>®</sup> Method	02
<b>Part 2 :</b>	Match information	03
<b>Part 3 :</b>	Refereeing situations	04
<b>Part 4 :</b>	IRD & CRD High AI results	10
<b>Part 5 :</b>	Refereeing decisions assessment	23
<b>Part 6 :</b>	Conclusion	26

## GLOSSARY

---

CRD: Correct Referee Decision

IRD: Incorrect Referee Decision

AI: Artificial Intelligence

## **1-REF-EVAL<sup>®</sup> METHOD**

---

The REF-EVAL<sup>®</sup> method is the exclusive property of the GOOD GAME!<sup>®</sup> company. The REF-EVAL<sup>®</sup> method uses multifactorial analysis of player physiological, biomechanical and tactical performance combined with all refereeing decisions.

The REF-EVAL<sup>®</sup> method, developed over 15 years of analysing players and referees performance data, provides more than 99% correct answers on all refereeing situations. The REF-EVAL<sup>®</sup> method leverages complex algorithms from artificial intelligence (AI) to identify all what are called IRD (Incorrect Referee Decision) to be opposed to CRD (Correct Referee Decision).

We then distinguish between IRD High, i.e. referee errors that directly influence the score (an invalid try accepted, a penalty not whistled...), and IRD Low, i.e. referee errors that do not directly influence the score (a free-kick not whistled, a red card not given...). In the same way we distinguish the CRD Low when the referee makes the right decision on a simple decision, from the CRD High when the referee makes a right decision on a complex situation on a try.

Furthermore the REF-EVAL<sup>®</sup> distinguish the unintentional IRD that occur in all rugby matches from intentional IRD to also identify potential match-fixing related to referees. The REF-EVAL<sup>®</sup> method is today the most advanced tool to secure competitions results and evaluate referees.

## 2-MATCH INFORMATION

---

### General Information

**Date** 2023/10/15

**Time** 21:00

**Country** France

**City** Saint-Denis

**Stadium** Stade de France

**Field length (m)** /

**Field width (m)** /



**Wind**

No

**Rain**

No

### Referees

Position	NAME	First name
Referee	O'KEEFFE	Ben
Assistant referee 1	WILLIAMS	Paul
Assistant referee 2	DOLEMAN	James
TV Match Official (TMO)	PICKERILL	Brendon

## 3-REFEREEING SITUATIONS (from chrono)

First Half: 0 to 15min

ORDER	PERIOD	TYPE	TMO	TEAM CODE	CHRONO	WHISTLED / NOT	DECISION	CRD/IRD Type	IRD Details	IRD Benefits for
1	First half	Start first half		South Africa	000:00	Yes	Correct			
2	First half	No try (for)		France	001:10	Yes	Correct	CRD High		
3	First half	22m kick (for)		South Africa	001:48	Yes	Correct			
4	First half	Line-out (for)		France	002:22	Yes	Correct			
5	First half	Line-out played (for)		France	002:55	Yes	Correct			
6	First half	Try (for)		France	003:14	Yes	Correct			
7	First half	Try conversion (for)		France	004:34	Yes	Correct			
8	First half	Restart kick (for)		South Africa	005:05	Yes	Correct			
9	First half	Throw forward (from)		South Africa	006:10	No	Incorrect	IRD High	Valid Penalty Not Whistled	South Africa
10	First half	Line-out (for)		France	006:42	Yes	Correct			
11	First half	Line-out played (for)		France	007:14	Yes	Correct			
12	First half	Try (for)		South Africa	007:47	Yes	Correct			
13	First half	Try conversion (for)		South Africa	009:18	Yes	Correct			
14	First half	Restart kick (for)		France	009:49	Yes	Correct			
15	First half	Penalty foul (for)		South Africa	009:53	No	Incorrect	IRD Low	Valid Penalty Not Whistled	France
16	First half	Yellow card (for)		France	009:54	No	Incorrect	IRD Low	Valid Yellow Card Not Given	France
17	First half	Line-out (for)		France	010:09	Yes	Correct			
18	First half	Line-out played (for)		France	010:38	Yes	Correct			
19	First half	Throw forward (from)		France	011:05	Yes	Correct			
20	First half	Scrum (for)		South Africa	012:12	Yes	Correct			
21	First half	Scrum foul (for)		France	012:13	Yes	Correct			
22	First half	Scrum (for)		South Africa	012:58	Yes	Correct			
23	First half	Line-out (for)		France	013:13	Yes	Correct			
24	First half	Line-out played (for)		France	013:48	Yes	Correct			
25	First half	Penalty foul (for)		France	014:13	Yes	Correct			

\*CRD(Correct Referee Decision) / IRD (Incorrect Referee Decision)

First Half: 15 to 30min

ORDER	PERIOD	TYPE	TMO	TEAM CODE	CHRONO	WHISTLED / NOT	DECISION	CRD/IRD Type	IRD Details	IRD Benefits for
26	First half	Penalty kick (for)		France	015:24	Yes	Correct			
27	First half	Penalty foul (for)		South Africa	016:10	Yes	Correct			
28	First half	Penalty kick (for)		South Africa	016:34	Yes	Correct			
29	First half	Line-out (for)		South Africa	016:35	Yes	Correct			
30	First half	Line-out played (for)		South Africa	017:01	Yes	Correct			
31	First half	Try (for)		South Africa	017:37	Yes	Correct			
32	First half	Try conversion (for)		South Africa	019:05	Yes	Correct			
33	First half	Restart kick (for)		France	019:34	Yes	Correct			
34	First half	Penalty foul (for)		France	021:25	Yes	Correct			
35	First half	Hand-played penalty (for)		France	021:27	Yes	Correct			
36	First half	Try (for)		France	021:31	Yes	Correct			
37	First half	Try conversion (for)		France	022:49	Yes	Correct			
38	First half	Penalty foul (for)		France	022:51	No	Incorrect	IRD High	Valid Try Conversion Not Whistled	South Africa
39	First half	Restart kick (for)		South Africa	023:24	Yes	Correct			
40	First half	Penalty foul (for)		France	023:54	No	Incorrect	IRD High	Valid Penalty Not Whistled	South Africa
41	First half	Yellow card (for)		South Africa	023:55	No	Incorrect	IRD Low	Valid Yellow Card Not Given	South Africa
42	First half	Line-out (for)		France	024:23	Yes	Correct			
43	First half	Line-out played (for)		France	025:00	Yes	Correct			
44	First half	Try (for)		South Africa	025:38	Yes	Correct			
45	First half	Try conversion (for)		South Africa	027:29	Yes	Correct			
46	First half	Restart kick (for)		France	027:55	Yes	Correct			
47	First half	Penalty foul (for)		France	028:36	No	Incorrect	IRD High	Valid Penalty Not Whistled	South Africa
48	First half	Line-out (for)		France	029:08	Yes	Correct			
49	First half	Line-out played (for)		France	029:32	Yes	Correct			
50	First half	Line-out (for)		France	029:57	Yes	Correct			

\*CRD(Correct Referee Decision) / IRD (Incorrect Referee Decision)

First Half: 30min to half time

ORDER	PERIOD	TYPE	TMO	TEAM CODE	CHRONO	WHISTLED / NOT	DECISION	CRD/IRD Type	IRD Details	IRD Benefits for
51	First half	Line-out played (for)		France	030:24	Yes	Correct			
52	First half	Try (for)		France	030:43	Yes	Correct			
53	First half	Try conversion (for)		France	031:54	Yes	Correct			
54	First half	Restart kick (for)		South Africa	032:37	Yes	Correct			
55	First half	Throw forward (from)		South Africa	033:21	Yes	Correct			
56	First half	Scrum (for)		France	034:38	Yes	Correct			
57	First half	Scrum foul (for)		France	034:43	Yes	Correct			
58	First half	Scrum foul (for)		France	035:31	Yes	Correct			
59	First half	Mark (for)		South Africa	036:14	Yes	Correct			
60	First half	Scrum (for)		South Africa	037:31	Yes	Correct			
61	First half	Penalty foul (for)		France	037:42	Yes	Correct			
62	First half	Penalty kick (for)		South Africa	038:10	Yes	Correct			
63	First half	Line-out (for)		France	038:24	Yes	Correct			
64	First half	Line-out played (for)		France	038:51	Yes	Correct			
65	First half	Penalty foul (for)		France	039:20	Yes	Correct			
66	First half	Yellow card (for)	TMO	South Africa	039:31 / stop chrono	Yes	Correct			
67	First half	Penalty kick (for)		France	040:02	Yes	Correct			
68	First half	End first half		South Africa	040:05	Yes	Correct			

\*CRD(Correct Referee Decision) / IRD (Incorrect Referee Decision)

Second Half: 40 to 55min

ORDER	PERIOD	TYPE	TMO	TEAM CODE	CHRONO	WHISTLED / NOT	DECISION	CRD/IRD Type	IRD Details	IRD Benefits for
69	Second half	Start first half		France	040:00	Yes	Correct			
70	Second half	Throw forward (from)		France	040:34	Yes	Correct			
71	Second half	Scrum (for)		South Africa	041:36	Yes	Correct			
72	Second half	Line-out (for)		France	041:52	Yes	Correct			
73	Second half	Line-out played (for)		France	042:23	Yes	Correct			
74	Second half	Throw forward (from)		France	043:13	Yes	Correct			
75	Second half	Scrum (for)		South Africa	044:18	Yes	Correct			
76	Second half	Line-out (for)		France	044:31	Yes	Correct			
77	Second half	Substitution (for)		South Africa	044:38	Yes	Correct			
78	Second half	Line-out played (for)		France	044:40	Yes	Correct			
79	Second half	Penalty foul (for)		South Africa	045:25	Yes	Correct			
80	Second half	Penalty kick (for)		South Africa	045:47	Yes	Correct			
81	Second half	Line-out (for)		South Africa	045:51	Yes	Correct			
82	Second half	Line-out played (for)		South Africa	046:02	Yes	Correct			
83	Second half	Substitution (for)		South Africa	045:58	Yes	Correct			
83	Second half	Substitution (for)		France	049:20	Yes	Correct			
84	Second half	Throw forward (from)		South Africa	046:19	Yes	Correct			
85	Second half	Scrum (for)		South Africa	047:31	Yes	Correct			
86	Second half	Line-out (for)		France	049:00	Yes	Correct			
88	Second half	Line-out played (for)		France	049:22	Yes	Correct			
89	Second half	Throw forward (from)		South Africa	050:32	Yes	Correct			
90	Second half	Substitution (for)		South Africa	050:47	Yes	Correct			
91	Second half	Substitution (for)		France	050:47	Yes	Correct			
92	Second half	Scrum foul (for)		France	051:12	Yes	Correct			
93	Second half	Scrum (for)		France	051:34	Yes	Correct			
94	Second half	Penalty foul (for)		France	052:07	Yes	Correct			
95	Second half	Penalty kick (for)		France	053:35	Yes	Correct			
96	Second half	Restart kick (for)		South Africa	053:53	Yes	Correct			
97	Second half	Line-out (for)		South Africa	054:21	Yes	Correct			
98	Second half	Line-out played (for)		South Africa	054:32	Yes	Correct			

\*CRD(Correct Referee Decision) / IRD (Incorrect Referee Decision)



Second Half: 55 to 70min

ORDER	PERIOD	TYPE	TMO	TEAM CODE	CHRONO	WHISTLED / NOT	DECISION	CRD/IRD Type	IRD Details	IRD Benefits for
99	Second half	Penalty foul (for)		France	055:45	Yes	Correct			
100	Second half	Line-out (for)		France	056:23	Yes	Correct			
101	Second half	Line-out played (for)		France	056:44	Yes	Correct			
102	Second half	Throw forward (from)		South Africa	057:33	Yes	Correct			
103	Second half	Substitution (for)		France	057:47	Yes	Correct			
104	Second half	Scrum (for)		France	058:13	Yes	Correct			
105	Second half	Penalty foul (for)		South Africa	058:21	Yes	Correct			
106	Second half	Line-out (for)		South Africa	058:41	Yes	Correct			
107	Second half	Line-out played (for)		South Africa	058:58	Yes	Correct			
108	Second half	Penalty foul (for)		France	059:58	No	Incorrect	IRD Low	Valid Penalty Not Whistled	South Africa
109	Second half	Yellow card (for)		South Africa	059:59	No	Incorrect	IRD Low	Valid Yellow Card Not Given	South Africa
110	Second half	Throw forward (from)		South Africa	060:16	Yes	Correct			
111	Second half	Substitution (for)		South Africa	060:36	Yes	Correct			
112	Second half	Scrum (for)		France	061:13	Yes	Correct			
113	Second half	Throw forward (from)		France	062:40	Yes	Correct			
114	Second half	Substitution (for)		South Africa	062:52	Yes	Correct			
115	Second half	Scrum (for)		South Africa	063:23	Yes	Correct			
116	Second half	Scrum foul (for)		France	063:26	Yes	Correct			
117	Second half	Substitution (for)		France	063:55	Yes	Correct			
118	Second half	Scrum (for)		South Africa	064:22	Yes	Correct			
119	Second half	Penalty foul (for)		France	064:54	Yes	Correct			
120	Second half	Hand-played penalty (for)		South Africa	065:52	Yes	Correct			
121	Second half	Try (for)		South Africa	066:20	Yes	Correct			
122	Second half	Try conversion (for)		South Africa	066:58	Yes	Correct			
123	Second half	Restart kick (for)		France	067:18	Yes	Correct			
124	Second half	Penalty foul (for)		South Africa	067:36	Yes	Incorrect	IRD High	Invalid Penalty Whistled	South Africa
125	Second half	Restart kick (for)		France	069:08	Yes	Correct			
126	Second half	Substitution (for)		France	069:27	Yes	Correct			

\*CRD(Correct Referee Decision) / IRD (Incorrect Referee Decision)

Second Half: 70min to end second half

ORDER	PERIOD	TYPE	TMO	TEAM CODE	CHRONO	WHISTLED / NOT	DECISION	CRD/IRD Type	IRD Details	IRD Benefits for
127	Second half	Penalty foul (for)		France	070:37	Yes	Correct			
128	Second half	Penalty kick (for)		France	072:02	Yes	Correct			
129	Second half	Substitution (for)		France	072:16	Yes	Correct			
130	Second half	Restart kick (for)		South Africa	072:17	Yes	Correct			
131	Second half	Line-out (for)		South Africa	072:46	Yes	Correct			
132	Second half	Line-out played (for)		South Africa	073:12	Yes	Correct			
133	Second half	22m (for)		France	073:49	Yes	Correct			
134	Second half	Substitution (for)		South Africa	074:11	Yes	Correct			
135	Second half	22m kick (for)		France	074:13	Yes	Correct			
136	Second half	Scrum (for)		South Africa	075:11	Yes	Correct			
137	Second half	Throw forward (from)		South Africa	076:09	Yes	Correct			
138	Second half	Scrum (for)		France	077:21	Yes	Correct			
139	Second half	Scrum foul (for)		France	077:25	Yes	Correct			
140	Second half	Scrum foul (for)		France	077:40	Yes	Correct			
141	Second half	End second half		South Africa	080:57	Yes	Correct			

\*CRD(Correct Referee Decision) / IRD (Incorrect Referee Decision)

## 4-IRD & CRD AI results

---

0110 CRD Low: No Try (NT)



## 0610 IRD High: Valid Penalty Not Whistled (VPNW)







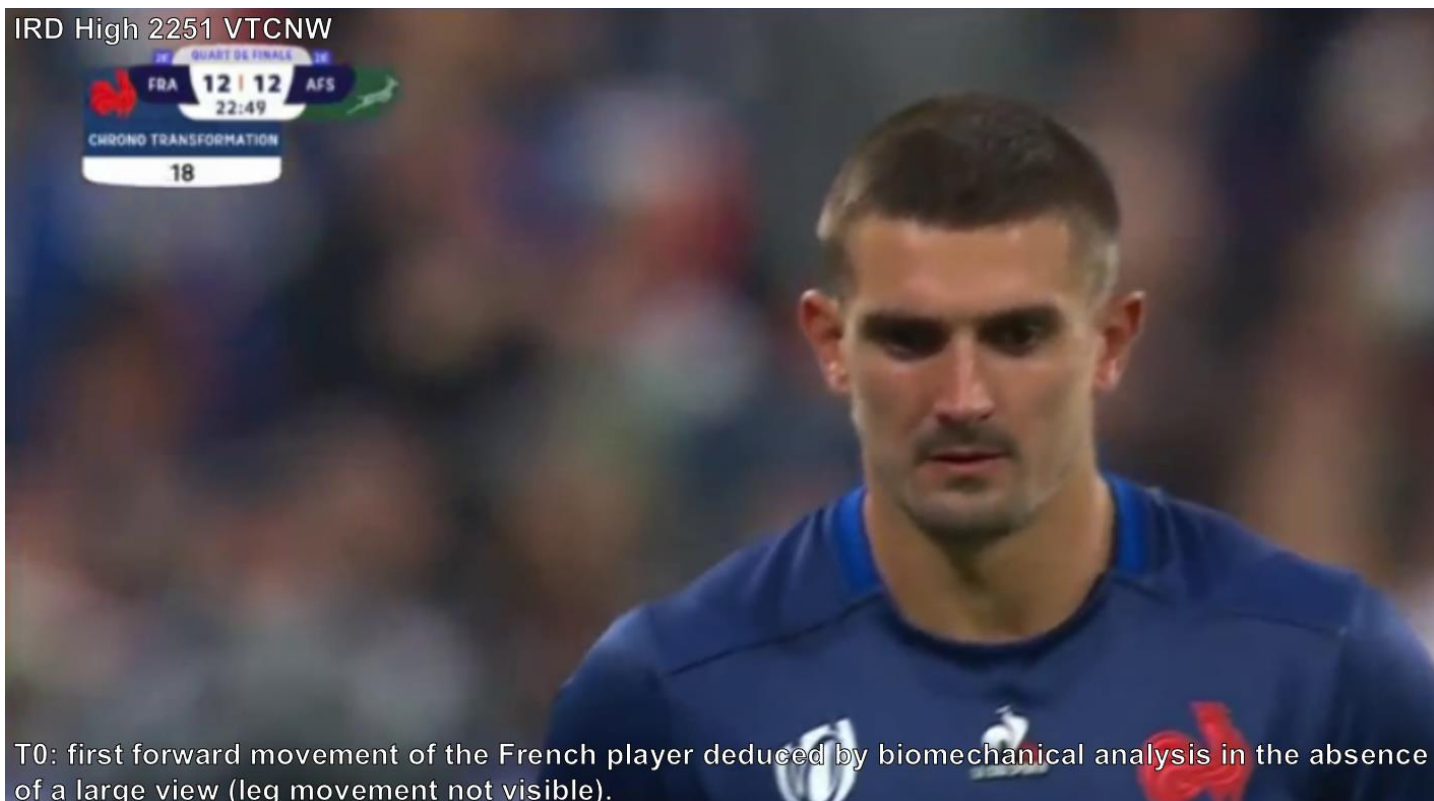
**0953 IRD Low: Valid Penalty Not Whistled (VPNW)**



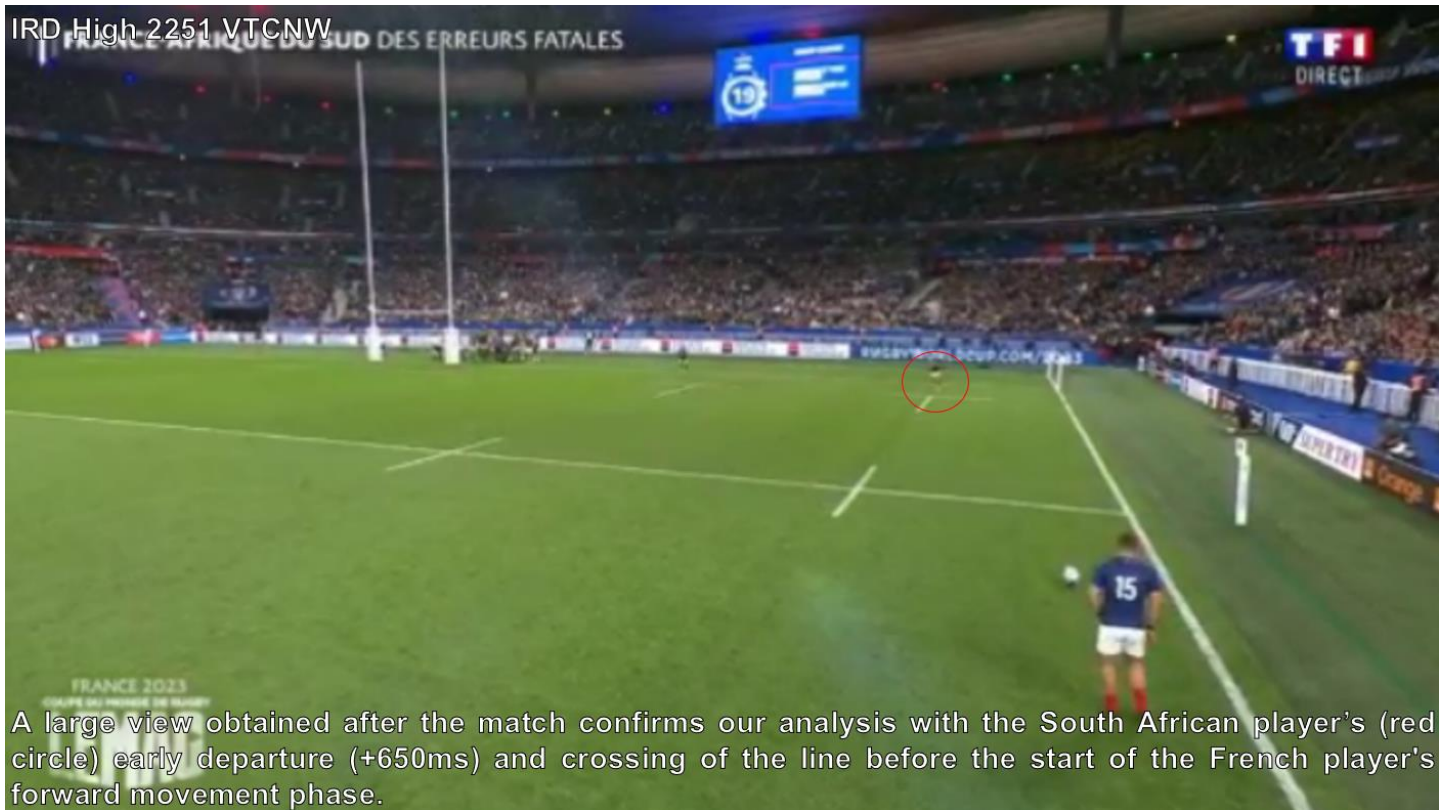


## 2251 IRD High: Valid Try Conversion Not Whistled (VTCNW)









2254 IRD High: Valid Penalty Not Whistled (VPNW)



2836 IRD High: Valid Penalty Not Whistled (VPNW)







5958 IRD Low: Valid Penalty Not Whistled (VPNW)



T0: contact of the South African player's left hand on the French player's head (red circle).



6736 IRD High: Valid Penalty Not Whistled (VPNW)



## 5-REFEREEING DECISIONS ASSESSMENT

REFEREEING SITUATIONS	Total	%
Total number of refereeing situations	141	/
Whistled	132	94
Not whistled	9	6
Correct	131	93
Incorrect (IRD)	10	7
Not assessed	0	0

IRD Distribution	Total	%
Benefits for France	2	20
Benefits for South Africa	8	80



IRD France	Total
Total number of IRD High with benefit	0
Total number of IRD Low with benefit	2
Total number of IRD High with deficit	5
Total number of IRD Low with deficit	3

IRD Distribution with benefits for France	Total
Reverse team	/
Valid Try Canceled	/
Invalid Try Accepted	/
Valid Penalty Not Whistled	1
Invalid Penalty Whistled	/
Valid Throw Forward Not Whistled	/
Invalid Throw Forward Whistled	/
Valid Forward Pass Not Whistled	/
Invalid Forward Pass Whistled	/
Valid Free Kick Not Whistled	/
Invalid Free Kick Whistled	/
Valid Scrum Foul Not Whistled	/
Invalid Scrum Foul Whistled	/
Valid Line-Out Not Whistled	/
Invalid Line-Out Whistled	/
Valid Yellow Card Not Given	1
Invalid Yellow Card Given	/
Valid Red Card Not Given	/
Invalid Red Card Given	/
Valid Try Conversion Not Whistled	/

IRD South Africa	Total
Total number of IRD High with benefit	5
Total number of IRD Low with benefit	3
Total number of IRD High with deficit	0
Total number of IRD Low with deficit	2

IRD Distribution with benefits for South Africa	Total
Reverse team	/
Valid Try Canceled	/
Invalid Try Accepted	/
Valid Penalty Not Whistled	4
Invalid Penalty Whistled	1
Valid Throw Forward Not Whistled	/
Invalid Throw Forward Whistled	/
Valid Forward Pass Not Whistled	/
Invalid Forward Pass Whistled	/
Valid Free Kick Not Whistled	/
Invalid Free Kick Whistled	/
Valid Scrum Foul Not Whistled	/
Invalid Scrum Foul Whistled	/
Valid Line-Out Not Whistled	/
Invalid Line-Out Whistled	/
Valid Yellow Card Not Given	2
Invalid Yellow Card Given	/
Valid Red Card Not Given	/
Invalid Red Card Given	/
Valid Try Conversion Not Whistled	1

## 6-CONCLUSION

---

The presence of 5 IRD (Incorrect Referee Decision) High (with direct influence on the score) and 5 IRD Low in the match between France and South Africa, part of the Rugby WORLD CUP France 2023 have directly influence the result of the match.

PROJECTED RESULTS	OFFICIAL	REAL
-------------------	----------	------

France - South Africa	/	/
-----------------------	---	---

PROJECTED POINTS	OFFICIAL	REAL
------------------	----------	------

France	Not qualified	Qualified
--------	---------------	-----------

South Africa	Qualified	Not qualified
--------------	-----------	---------------

The distribution of IRDs High with direct influence on score, 100% with benefits for South Africa (5/5) despite the presence of the TMO (Television Match Official), is a completely abnormal distribution in a professional rugby match and would require further investigations into refereeing related to manipulation.

On October 16, 2023,

SP, Ph.D.

