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Covid-19 pandemic re-engineering of Olympic Games and other 2021-2022 international sport mega-events

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- 1) Synthesis
- 2) Re-engineering international sport mega-event sanitary security
- 3) Planning international travel and Host City mega-event sanitary security overlays
- 4) Tentative conclusions
- 5) Annex A and B

1. Synthesis

International sport mega-event and world air travel industry have been more than 95% devastated by Covid-19 pandemic. Top prospective analysts and WHO—World Health Organization expect a long world recovery in those sectors, probably not before 2025.

Availability of a fully tested, **reliable universally authorized Covid-19 vaccine is not expected until Spring-Summer 2021 at best** and its wide universal distribution is much too early to ascertain. **(Annex A: August 2020 Covid-19 pandemic trends).**

This leaves international mega-sport event organizations constrained to re-plan and re-engineer sanitary security safer delivery of 2021 and 2022 mega-events in Covid-19 unsecured environments.

Due to Covid-19 expected situation at time of sport mega-event happening three fundamental questions arise:

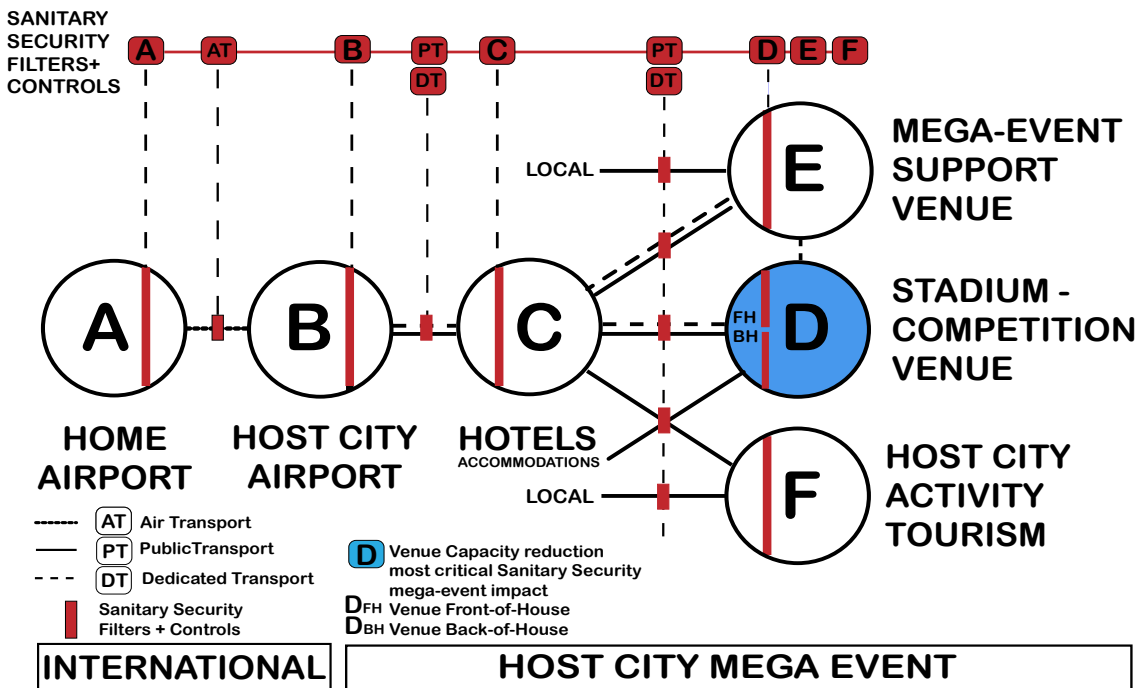
- I. **What maximum Stadium or competition venue secured Sanitary capacity shall be authorized by National Sanitary Regulation Authorities valid at mega-event time? In other words, what reduction of Stadium or competition venue original seating capacity will be required to meet new sanitary-security standards?**
For Summer Olympic Games nominal 8 million total spectator attendance, it might mean **Games scenarios with decreasing numbers of spectators to 7.0 million, 5.5 mio, 4.0 mio, 2.5 mio or even without public** depending on Host country sanitary regulations at Games-time!
- II. **What international and domestic transportation chain sanitary secured measures will be taken to allow, restrain or prohibit movements** from Home origin (anywhere around the world) to Stadium or competition venue final destination?
For international travel, this is a fundamental constraint **as country to country travel interactions are in constant** (generally every 2 weeks) **re-evaluation depending on respective Covid-19 risk levels!**
For Summer Olympic Games 205 participating countries, **travel restrictions** (such as quarantines or more) **or prohibitions** and **repeated travel sanitary controls** (covid-19 tests, blood tests, temperature checks and others) for all mega-event participants will **severely complicate mega-event world travel chain planning.**
- III. **Sanitary security policy changes and fear of Covid-19 second wave** on Stadium/Competition venue capacities and on Home to Venue Transportation chain parameters have **“domino” effects on other main mega-event functions** such as Accommodations for all client-groups, Media services, Host City general public transport and on dedicated mega-event transport services.
Unpredictability of first and second wave pandemic country by country evolution over time is an overwhelming planning issue. (Annex A: August 2020 Covid 19 pandemic trends)

2. Re-engineering international sport mega-event sanitary security

As illustrated in the Home to Mega-event venue schematic generic graph below, **Covid-19 Pandemic Sanitary Security countermeasures dramatically change the mega- sport-event world in three ways:**

- 1. Divides the world in three inter-country travel possibilities**
 (X)--Free travel with adequate official documents
 (Y)--Travel with ± severe destination country entry or/and exit restrictions
 (Z)--Travel to destination country totally prohibited
 As of August 2020, the 205/205 world inter-country travel matrix has an overwhelming number of (Z) cases. **Most governments produce two-weekly updates of Covid-19 world travel listing regulations and often maps. (Annex A: August 2020 Covid 19 pandemic trends)**
- 2. Substantially hampers the entire transportation chain from Home to Stadium or Competition venue** with a succession of indispensable general security controls, health document other sanitary controls (**covid-19 tests, blood tests, temperature checks and others**) and special measures even encompassing quarantines. New sanitary security regulations affect strongly international air travel and all Host City public transport systems reducing transport performance in order to minimize sanitary mobility risks. **All Sanitary-Security filters and controls elements shown RED in graph.**
- 3. Inevitably generate mega-event attendance uncertainties due to potentially critical Stadium - competition venue capacity reductions of 10%-25%-50%-75% or 100% No public** to comply with Host Country and Host City Sanitary-Security regulations at mega-event happening time. Mega-event ± reduced attendances has domino effect not only on mega-event support venues but also on all Host City activities related to the mega-event and to Host City and country tourism. **Stadium, in case of mono-sport mega-event, and multiple competition venues, in case of multiple-sport like the Olympics, are the primary sport hubs of these mega-events as shown in BLUE below.**

COV-19 PANDEMIC MEGA-EVENT SANITARY-SECURITY RE-PLANNING



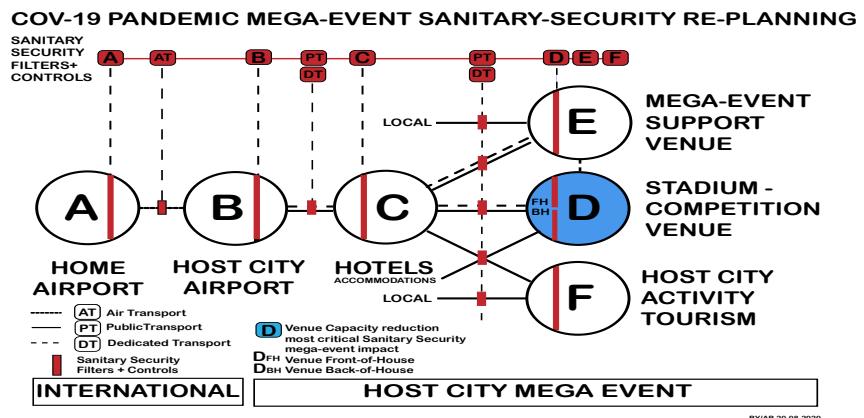
3. Planning international travel and Host City mega-event sanitary security overlays

Transport by Air, Rail, Roads, Water at all geographical scales is dictated by safety and security institutionalized rules and regulations. The same exist for mega-event operations such as routine Stadium and/or Competition venues operations and emergency evacuations. A strong culture of ever improving “safety and security” universal culture exist in this domain.

3.1 New Sanitary-Security culture

With Covid-19, rapidly growing pandemic, an **almost totally new culture of “sanitary-security”** has to be developed, experimented, tested, coordinated and improved at international, national, regional, metropolitan and local community levels particularly within the sport mega-event domain subject of this paper.

International world sport mega-events are certainly the best and most difficult new “sanitary-security” testing grounds **illustrated by the long HOME to SPORT VENUE chain of multiple “RED Sanitary-Security filters and controls”** at right



Eight months after Covid-19 world irruption and very little “Sport mega-event in Covid-19 environment experience”, the current prospective analysis of successive Sanitary-Security counter measures is **essentially tentative and preliminary**.

3.2 New Sanitary-Security Transport and mega-event venue new overlay (coded RED)

Throughout this presentation, fundamental distinction will be made of:

- **New Sanitary Security overlay measures such as controls and filters systematically shown in RED.**
versus
- **Standard commonly used pre-Covid 19 pandemic procedures, official documents and controls shown in BLUE or in BLACK**

The international mega-event system graph identifies seven (A to F) main components:

International linkage

- A. HOME ORIGIN AIRPORT
- B. HOST CITY DESTINATION AIRPORT

Host City mega-event operations

- C. HOST CITY HOTELS/ ACCOMMODATIONS
- D. STADIUM/ COMPETITION VENUES
- E. MEGA-EVENT SUPPORT VENUES
- F. HOST CITY ACTIVITIES and TOURISM

3.3 A to B international linkage system (Sanitary-Security Coding Annex B)

- **(A) HOME ORIGIN AIRPORT** with:
 - usual travel documents + Security boarding check (PVI+SBL)
 - + Sanitary pass or equivalent (SPE)
 - + eventual "Authorization to travel to Destination" (OKT)
- **(AT) HOME TO DESTINATION AIR TRAVEL** with
 - usual Flight Security boarding and in-flight measures
 - + Airlines supplemental "Sanitary protection measures" (ATS)
- **(B) HOST CITY DESTINATION AIRPORT** with:
 - usual Security and Travel documents (PVI+SBL)
 - + Sanitary pass or equivalent (SPE)
 - + eventual "Authorization to travel to Destination" (OKT)

3.4 Host City transport services (Sanitary-Security Coding Annex B)

- **(PT) HOST CITY PUBLIC TRANSPORT** with:
 - Usual permanent operations and travel controls
 - Sanitary Security Public transport upgraded measures (PTS)
- **(DT) MEGA-EVENT DEDICATED TRANSPORT SERVICES** with:
 - Temporary mega-event dedicated transport services with specific Sanitary Security rules (DTS +BBT)

3.5 D to F Host City Mega-event operations (Sanitary-Security Coding Annex B)

- **(C) HOST CITY HOTELS and ACCOMMODATIONS** with:
 - Usual permanent facility entry procedures
 - Olympic Hotel Sanitary Security upgraded measures (OHS), travel with DTS +BBT services
 - Olympic Village Sanitary Security upgraded measures (OVS), travel DTS and BBT services
 - General Sanitary Security upgrades measures (GAS), travel by PTS Public Transport
 - **(DFH) STADIUM and/or COMPETITION VENUE** with:
 - Front-of- House operations linked to PTS-Public Transport upgraded Sanitary services
 - Usual Venue Ticket control and Mag +bag checks
 - Venue Olympic Sanitary Access Control (VOS)
 - Venue Internal Movement to seating procedure (VIS)
 - **(DBH) STADIUM and/or COMPETITION VENUE** with:
 - Back-of-Door operations linked to DTS- Dedicated Transport services
 - Usual accreditation control and Mag + bag checks
 - Venue Olympic Sanitary Access Control (VOS)
 - **(E) NON-COMPETITION VENUE and SUPPORT FACILITIES**
 - Venue access by DTS- Dedicated Transport or BBT- Bubble to Bubble transport
 - Usual accreditation control and Mag +bag checks
 - Venue Olympic Sanitary Access Control (VOS)
 - **(F) HOST CITY GENERAL ACTIVITIES AND TURISM**
 - Usual City activity public space security police surveillance and controls
 - Upgraded Public Transport Sanitary Security services (PTS)
-

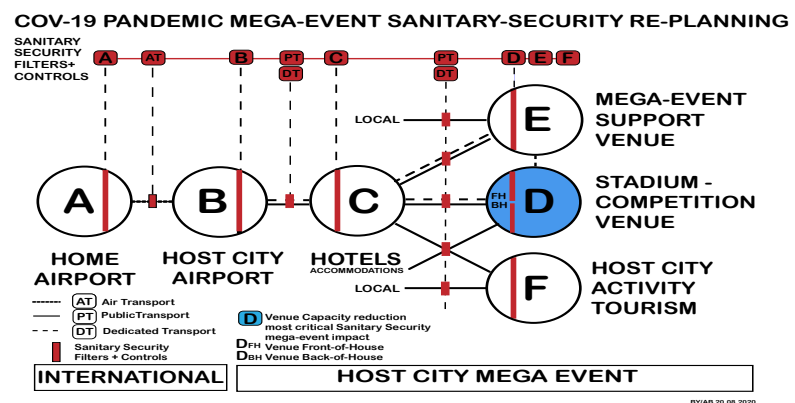
3.6 Graph generalization from international mono-sport to multi-sport mega-events

For multi-sport mega-events like Olympics the A to F graph applies as a hub-and-spoke configuration with often more than 30 competition venues (D) and many training venues (E).

For single sport mega-event like the EURO 2020/2021 Tournament with matches in 12 Stadia and 11 countries, the A to F graph refers to one Stadium per Host City configuration with Sanitary-Security regulations specific to each of the eleven Tournament Host countries and Host Cities.

4. Tentative conclusions

A proposed Sanitary-Security Covid-19 countermeasure conceptual sketch for the domain of international mega-events is illustrated below right:



Due to Covid-19 pandemic universality, the most difficult international/world task will be to obtain a minimal degree of harmonization of basic world “Sanitary-Security” vocabulary and regulations to allow and facilitate international interactions in that essential Health matter.

The rapidly evolving world division in three X-Y-Z inter-country travel or non-travel possibilities:

- (X)--Free travel with adequate official documents
- (Y)--Travel with ± severe destination country entry restrictions
- (Z)--Travel to destination country totally prohibited

is an overwhelming handicap for international mega-event planning and re-engineering. The more mega-event country delegations the more complexity. Current Summer 2020 X-Y-Z divisions are already shown to be extremely volatile for legitimate Sanitary-Security Health reasons and for geo-political reasons

This current only “8 months after Covid-19 pandemic irruption” August 2020 narrative calls for much humility in perspective developments and gravity of issues selection.

Updated international mega-event “Sanitary Security” overlay research shall conducted with intermediate results hopefully produced every six months during next two years 2021-2022.

5. ANNEX A and B

Ann A August 2020 Covid-19 pandemic trends

Ann B New Covid-19 Sanitary-Security measures, filters and controls tentative coding

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Covid-19 pandemic re-engineering of Olympic Games and other 2021-2022 international sport mega-events

Annex A

August 2020 Covid-19 pandemic trends

International sport mega-event and world air travel industry have been more than 95% devastated by Covid-19. divides the world in three Inter-country travel possibilities as shown by Map Ann A.6 (Case example of France at mid-August 2020):

(X)--Free travel with adequate official documents

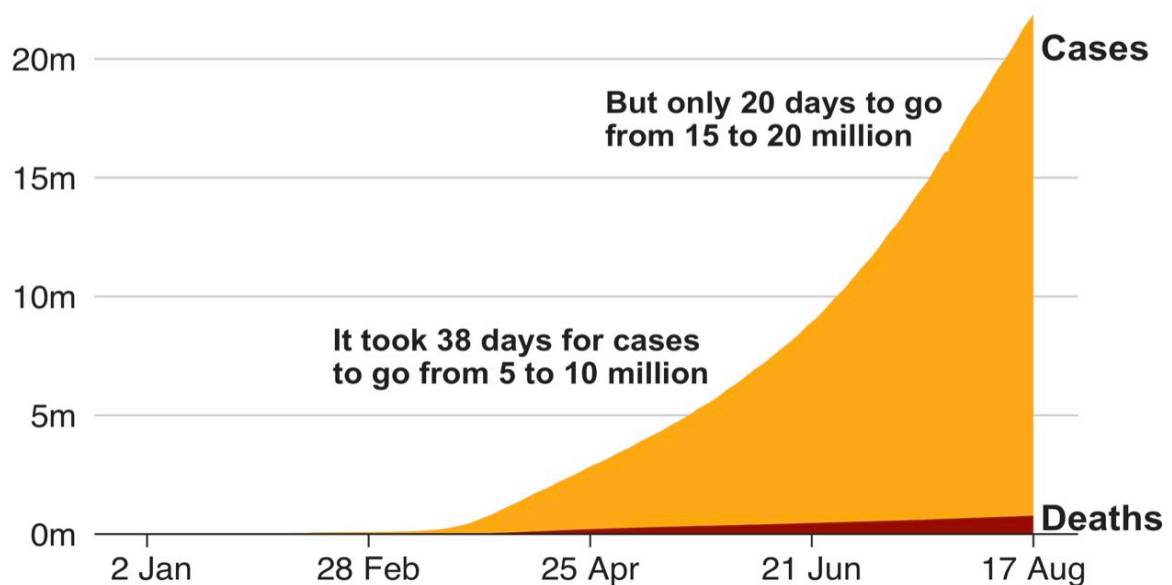
(Y)--Travel with \pm severe destination country entry restrictions

(Z)--Travel to destination country totally prohibited

- **WHO—World Health Organization expect a long world recovery in these sectors, probably not before 2025.**
- **Availability of a fully tested, reliable universally authorized Covid-19 vaccine is not expected until Spring-Summer 2021 at best**
- **International mega-sport event organizations shall pragmatically re-plan, re-engineer, invent Covid-19 countermeasures to deliver 2021 and 2022 mega-events in Covid-19 unsecured environments.**
- **Points above heavily depend on an extraordinary fast developing world pandemic with no known time perspective by continent and countries particularly for planners working for continental or world sport mega-events**

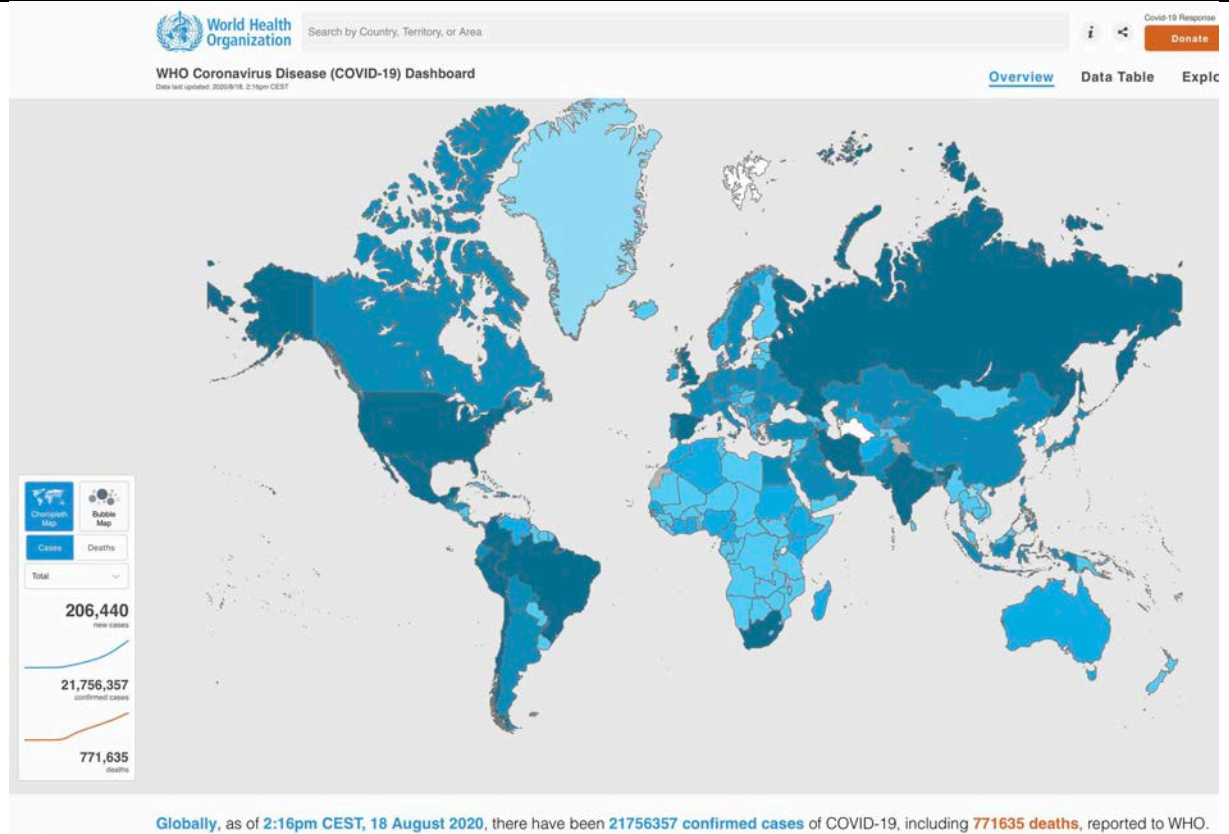
Ann A.1 -- Mid-August 2020 Covid 19 world new cases

Confirmed global coronavirus cases pass 21 million, and still rising fast



Source: Johns Hopkins University, national health agencies, data to 17 Aug

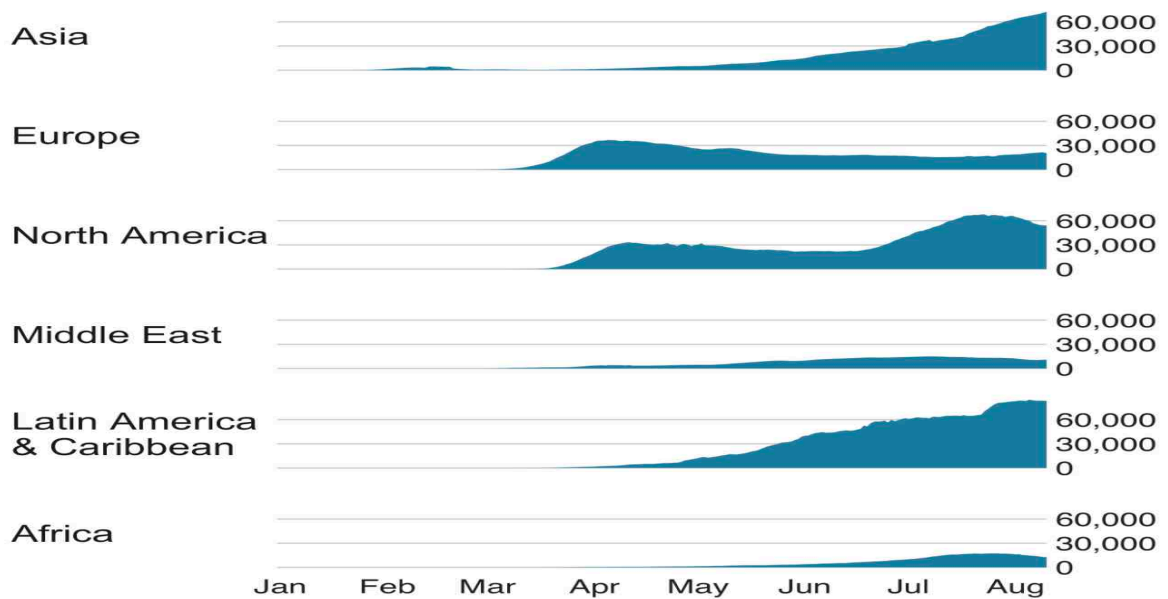
Ann A.2 -- Mid-August 2020 Covid 19 new cases by continents:



Ann A.3 -- Mid-August 2020 Covid 19 new cases by continents:

Covid-19 cases compared by continent

Number of cases per day, seven-day rolling average



Oceania cases excluded as too low to register on scale

Source: ECDC and national public health agencies, data to 10 August



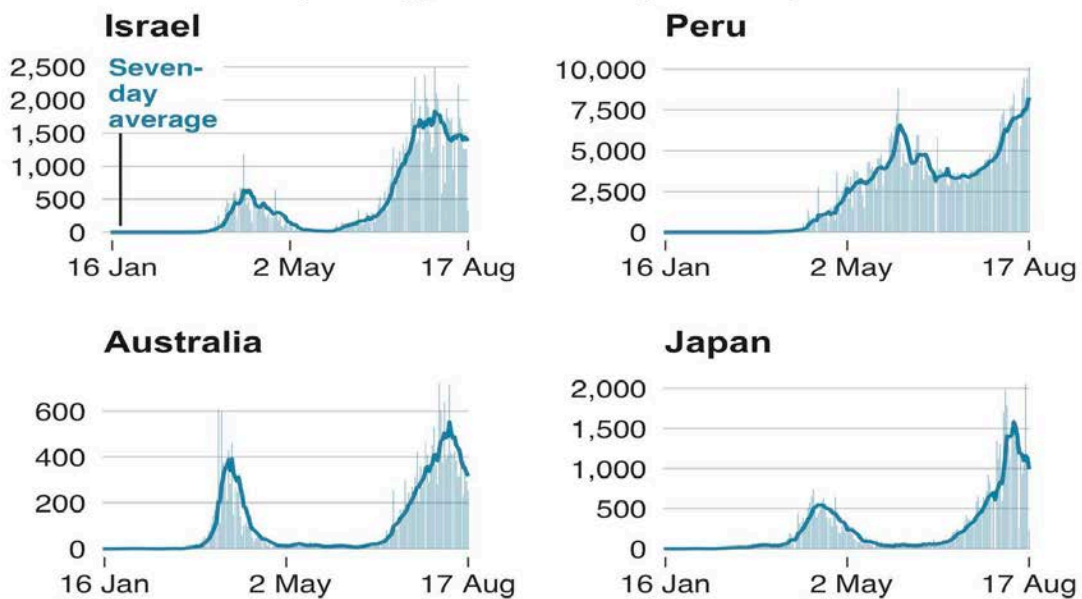
Ann.4 -- Mid-August-18- 2020 Covid 19 top 20 countries global statistics

#	Country, Other	Total Cases	New Cases	Total Deaths	New Deaths	Total Recovered	Active Cases	Serious, Critical	Tot Cases/ 1M pop	Deaths/ 1M pop	Total Tests	Tests/ 1M pop	Population
	World	22,277,556	+234,048	782,989	+5,786	15,024,268	6,470,299	62,270	2,858	100.5			
1	USA	5,653,076	+41,101	174,941	+1,225	3,002,364	2,475,771	17,354	17,066	528	72,321,339	218,324	331,256,357
2	Brazil	3,411,872	+48,637	110,019	+1,365	2,554,179	747,674	8,318	16,037	517	13,729,872	64,533	212,756,034
3	India	2,766,626	+65,022	53,023	+1,098	2,035,143	678,460	8,944	2,002	38	30,941,264	22,393	1,381,752,440
4	Russia	932,493	+4,748	15,872	+132	742,628	173,993	2,300	6,389	109	32,968,759	225,902	145,942,798
5	South Africa	592,144	+2,258	12,264	+282	485,468	94,412	539	9,968	206	3,430,347	57,746	59,404,038
6	Peru	541,493		26,481		370,717	144,295	1,524	16,394	802	2,793,614	84,578	33,030,127
7	Mexico	525,733	+3,571	57,023	+266	359,347	109,363	3,536	4,072	442	1,181,695	9,153	129,106,847
8	Colombia	489,122	+12,462	15,619	+247	312,323	161,180	1,493	9,600	307	2,299,226	45,125	50,952,553
9	Chile	388,855	+1,353	10,546	+33	362,440	15,869	1,157	20,319	551	2,068,079	108,065	19,137,440
10	Spain	384,270	+2,128	28,670	+24	N/A	N/A	617	8,218	613	7,955,615	170,147	46,757,191
11	Iran	347,835	+2,385	19,972	+168	300,881	26,982	3,882	4,134	237	2,914,049	34,637	84,129,933
12	UK	320,286	+1,089	41,381	+12	N/A	N/A	73	4,715	609	14,825,051	218,231	67,932,724
13	Saudi Arabia	301,323	+1,409	3,470	+34	272,911	24,942	1,716	8,638	99	4,378,417	125,520	34,882,225
14	Argentina	299,126		5,877	+63	223,531	69,718	1,749	6,611	130	994,942	21,988	45,249,337
15	Pakistan	289,832	+617	6,190	+15	270,009	13,633	759	1,309	28	2,317,213	10,465	221,424,972
16	Bangladesh	282,344	+3,200	3,740	+46	162,825	115,779		1,712	23	1,378,819	8,362	164,900,676
17	Italy	254,636	+401	35,405	+5	204,142	15,089	58	4,212	586	7,642,059	126,420	60,449,906
18	Turkey	251,805	+1,263	6,016	+20	232,913	12,876	703	2,982	71	5,882,406	69,651	84,455,591
19	Germany	228,105	+1,419	9,305	+9	202,900	15,900	224	2,721	111	9,265,361	110,540	83,819,291
20	France	221,267	+2,238	30,451	+17	84,065	106,751	384	3,389	466	6,000,000	91,894	65,292,634

Ann.5 -- Mid-August- 2020 Countries with a second Covid-19 cases wave

Countries with a second rise in cases

Number of cases per day, each country on a separate scale



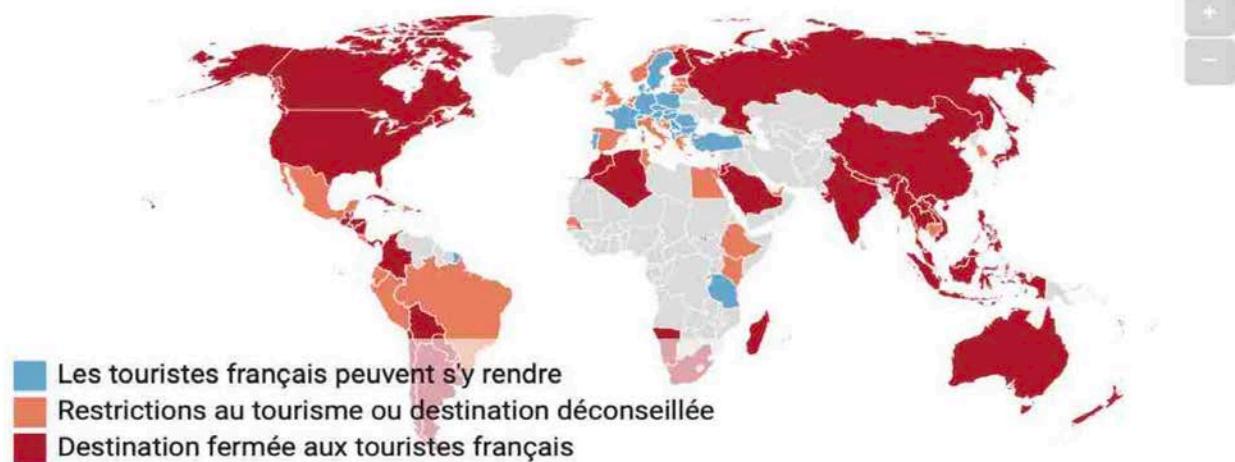
Source: ECDC, data to 17 August



Ann.6 -- Mid-August-18- 2020 French tourist world travel acceptance map

Tourisme : où les Français peuvent-ils voyager dans le monde ?

Conditions d'entrée pour les touristes français dans les principales destinations au 18 août 2020.



Carte: Pierre Morel • Source: [France Diplomatie, ambassades et ministères nationaux](#). • Créé avec [Datawrapper](#)

BLUE	French tourist allowed to travel
ORANGE	Travel restrictions or destinations not advised for French tourists
BORDEAUX	Destinations closed to French tourists

Warning: in principle map updated every two weeks // but might change sooner

Ann.7-- Annex 6 comments

International world sport organization planning teams (working for EURO 2020/2021 UEFA, Tokyo 2020/2021 Olympics, FIFA Qatar 2022) shall pursue a continuous monitoring of these map trends. In particular map 6 (example for France) shall be extended to all countries participating in any continental (EURO) or world (IOC, FIFA) sport mega-event.

Covid-19 pandemic for each of the 205 countries divides the world in three Inter-country travel possibilities as shown by Map ann A.6 (Case example of France at mid-August 2020):

- (X)--Free travel with adequate official documents**
- (Y)--Travel with ± severe destination country entry restrictions**
- (Z)--Travel to destination country totally prohibited**

As of August 2020, the 205/205 world inter-country travel matrix has an overwhelming number of (Z) cases. Most governments produce two-weekly updates of Covid-19 travel listing regulations and often maps.

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Annex B

Covid-19 Sanitary-Security measures, filters and controls tentative coding

Seven mega-event domains

+Transport

Standard usual procedures New Sanitary Security Overlay

(A) HOME ORIGIN AIRPORT

*PVI= Passport/Visa/Immigr.
SBL=Security Bag+ Luggage*

*SPE= Sanitary pass equivalent
OKT=OK travel to Destination*

HOST CITY AIRPORT

*PVI= Passport/Visa/Immigr.
SBL=Security Bag+ Luggage*

*SPE= Sanitary pass equivalent
OKT=OK travel to Destination
C19= Covid-19 test at Destination*

(AT) HOME TO HC AIR TRAVEL

*ATS= Air Travel Sanitary Security
(assumed by Airline Companies)*

(PT) HC PUBLIC TRANSPORT

PT usual operations

PTS=Upgraded PT_Sanitary Security

(DT) DEDICATED TRANSPORT

*DTS=Special Dedicated San-Sec-Serv
BBT=Bubble to Bubble San-Sec-Serv*

(C) OLYMPIC HOTELS+VILLAGE

*OHS=Olympic Hotel San-Sec-control
OVS=Olympic Village San-Sec-control
DTS and BBT transport services*

(C) GEN. ACCOMMODATIONS

*GAS=Accommodation San-Sec-control
PTS=Upgraded PT_Sanitary Security*

(DFH) STAD/COMPETITION VENUE Front-of-House

*Venue Ticket control
Mag+bag check*

*PTS=Upgraded PT_Sanitary Security
VOS=Venue Olympic San-Sec-Control
VIS=Venue internal seating San-Sec-Serv*

(DBH) STAD/COMPETITION VENUE Back-of-House

*Accreditations control
Mag+bag check*

*DTS or BBT Back-of-House entries
VOS=Venue Olympic San-Sec-Control*

**(E) NON-COMPETITION VENUE
(Media Center and others)**

*Accreditations control
Mag+bag check*

*DTS=Special Dedicated San-Sec-Serv
BBT=Bubble to Bubble San-Sec-Serv
PTS=Upgraded PT_Sanitary Security
VOS=Venue Olympic San-Sec-Control*

(F) HC ACTIVITIES+TOURISM

*PT usual operations
Public Space re-enforced Police*

PTS=Upgraded PT_Sanitary Security