EU guide on data for tourism destinations 2 EU guide on data for tourism destinations This document was prepared for the European Commission – DG GROW by Smart Tourism Destinations SI2.843962 PresentedbyPwCEUServicesEESV,IntelleraConsulting,CARSAandtheUniversityofMalagatothe EuropeanCommission,Directorate–GeneralforInternalMarket,Industry,EntrepreneurshipandSMEs Thiscontentisforgeneralinformationpurposesonly,andshouldnotbeusedasasubstituteforconsultationwithpro fessionaladvisors.AccordingtotheEuropeanCommission,smarttourism "respondstonewchallengesanddemandsinafast– changingsector,includingtheevolutionofdigitaltools, productsandservices,equalopportunityandaccessforall visitors,sustainabledevelopmentofthelocalarea,and supporttocreativeindustries,localtalentandheritage". EU guide on data for tourism destinations Abilitytocollect,curateandre–usetouristicdatain accordancewithacoherentstrategicplan.Thegoalistohelp peopleandorganizationsinmakingdecisionsandtaking actionsthatmaximisethebenefittotheorganization. Tourism data management Destination Management Organisation (DMO) Tourism accessibility Tourism sustainability Organisationwhichcoordinatesthemanyconstituent elementsofthetourismecosystem;contributingtothe destinationdevelopmentconsideringresidentsand stakeholdersinterestsandwellbeing.TheDMOmayprovide visitorservicesandthenecessaryinformationstructureto marketthedestinationinamostdemocraticway. Theabilityoftourismandtraveltobeaccessibletoall people,irrespectivelyofage,socialconditionsorofanytype ofdisability–temporaryorpermanent.Includesaccessibility inthephysicalenvironment,intransportation,information andcommunicationsandotherfacilitiesandservices. Theabilityofatourismecosystemofpreservingitsnatural andculturalresources,promotingthewellbeingoflocal communities,mitigatingtheseasonalityofdemand,limiting theenvironmentalimpactoftourism–relatedactivities, supportingaccessibilityandimprovingthequalityof tourismjobs. Integrationofglobalandcurrentdataanalyticstoinform thedecisionmakingprocessforthetourismsector.The purposeistoreduceuncertaintybyusinginformation obtainedfromamanydatasources,eveninrealtime. Travel intelligence Open Data Informationcollected,producedorpaidforbythepublic bodiesandmadefreelyavailableforre–useforanypurpose. Itisbuiltaroundthekeypillarsoftheinternalmarket:free flowofdata,transparencyandfaircompetition. Tourism ecosystems Therangeofstakeholdersinvolvedinthetourismsector.It includesnotonlypublicadministrationandprivate businesses,butalsoinnovationlabs/hubs,universitiesand researchcentres,innovationaccelerators/incubatorsand localinhabitants. Smart environments Smartenvironmentsuseambienttechnologies(sensors, telecomsnetworks,IoTandAIs)toprovidesustainable resourceefficienciesandnewinsightsintooperationsfrom complexdatatofirmsandtheirstakeholders. Key definitions Main trends in the tourism sector Three megatrends to predict the evolution of data use for tourism EU guide on data for tourism destinations Smartdestinationsarecontinuouslyevolvingintheir provisionofservicestotourists,followingsocio– demographic,cultural,technological,environmentaland politicalchangesthataffectallareasofsociety.Beingaware ofandunderstandingthesedevelopmentsinthetourism sectoriskeytoplantourismdevelopmentstrategies, especiallyintheattemptofadoptingsmarttourism approacheswhichrequirenotonlyinvestmentin technologiesbutalsoculturalchangesinDMOandacross

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theentiretourismecosystemsotoallowthetransitionfrom 3Stourism("sea,sun,andsand")to3Etourism("education, entertainment,andexperience").Onthemediumterm,evolutionsofcurrenttechnologies combinedwiththestructuraladoptionofnewtechnologies thatarenowreachingthenecessarymaturitystage,will makesmarttourismincreasinglypossibleandaccessiblefor bothDMOsandend-users.InternetofThings(IoT),for instance,willreachanewstageofdevelopment,notonly becauseofthecostofsensors,devicesandrelatedsoftware isprogressivelydecreasing,butalsobecauseofthehigher complementarityandinteroperabilityofthesystems involved.Inthiscontext,increaseddatainteroperability, coupledwithimproveddataprivacyandsecurity,willfoster widespreaddatasharingandre-use.Cybersecuritywill becomeincreasinglyimportantforbothdestinationsand usersandtechnologysolutionsproviderswillneedtoadapt tonewregulatoryconstraintsandguidelines.Atthesame time,furtherdevelopmentinmachinelearningandneural networksareexpectedtounlockthepotentialofother technologiesalsointhetourismsector.Anexampleofthis isAugmentedReality(AR),currentlymostlylimitedtothe gamingsector,butwithhugepossibleapplicationsalsoin thetourismindustry,toofferincreasinglyimmersiveand dynamicexperiences.Whilewehavemadeeveryattempttoensurethattheinformationcontainedinthisdocumen thasbeenobtainedfromreliablesources,PwC,Intellera Consulting,CARSAandtheUniversityofMalagaarenotresponsibleforanyerrorsoromissions,orfortheresultsob tainedfromtheuseofthisinformation.All informationinthisdocumentisprovided"asis",withnoguaranteeofcompleteness,accuracy,timelinessoroftheresultsobtainedfromtheuseofthis information,andwithoutwarrantyofanykind,expressorimplied,including,butnotlimitedtowarrantiesofperforma nce,merchantabilityandfitnessfora particularpurpose. InnoeventwillPwC,IntelleraConsulting,CARSAandtheUniversityofMalaga,itsrelatedpartnershipsorcorporati ons,orthepartners,agentsoremployees thereofbeliabletoyouoranyoneelseforanydecisionmadeoractiontakeninrelianceontheinformationinthisdocu mentorforanyconsequential,specialor similardamages,evenifadvisedofthepossibilityofsuchdamages. TheprojecthasreceivedfundingfromtheEuropeanCommissionunderservicecontractpilotproject"SmartTouris mDestinations"-GROW-2020-OP-0014- NumberSI2.843962 Theinformationandviewssetoutinthisdocumentarethoseoftheauthor(s)anddonotnecessarilyreflecttheofficial opinionoftheCommission.The Commissiondoesnotguaranteetheaccuracyofthedataincludedinthisstudy.NeithertheCommissionnoranyper sonactingontheCommission'sbehalfmay beheldresponsiblefortheusewhichmaybemadeoftheinformationcontainedtherein.1 EU guide on data for tourism destinations 2 3 6 9 11 Allovertheworldtourismdestinationsarecontinuously investinganddevelopingnewstrategiestoincreasetheir appealtowardsprospectvisitorsandbettermanage tourismflows.Tothisend,manydestinationmanagement organisations(DMOs)decidedtopursuethestatusof

smartdestination,byfosteringinnovationandtheuptake ofdata-drivensolutionstoenhancetheirownandlocal stakeholdersofferandbusinessstructure,developingnew andmoresustainableformsoftourism,whilebroadening theirapproachto'destinationmanagement'.Thelatterhas beenoftendonebycreatingsynergieswithwider'smart city'programmes-e.g.,bysharingtechnologiesinitially usedformobilitypurposesonly,adaptingthemalsoto tourism-specificpurposesandgeneratingeconomiesof scale-orbyestablishinglong-termpartnershipswiththe privatesector.Onthelongterm,theparalleldevelopmentofdata interoperability,AI-poweredsolutionsandbigdata processingcapabilities,willallowtoincreasinglymakethe tourismmanagementaccurateandefficientandtourism experiencesseamlessandpersonalized.Blockchain-based solutionshavethepotentialtoincreasethesecurityand transparencyofdataandinformationsystems.The metaversewillofferopportunitiesforimmersiveeducation andentertainmentexperiences.Improveddatasecurity systemscoupledwithamoreadvancedandencompassing regulatoryframeworkaregoingtosupportthewidespread embeddingofbiometricsandrecognitionsystemsinto tourists'life.DevelopmentsinroboticscombinedwithAI forautonomousmovementorlanguageprocessing-are alsoexpectedtoproducesomeimpactinthetourism servicesandhospitalitysector.Onalongtime-horizon conciergeandreceptiontaskscouldbeexecutedby chatbotsandrobots,aswellasassistancetoe.g.,tourists withlimitedmobilitycouldbeprovidedthroughrobotsor autonomousvehiclesystems.4 Main trends in the tourism sector EU guide on data for tourism destinations Megatrend 2 -Socio-demographic changes Anageingpopulationandprogressivelyhigherratesof digitalliteracyrepresenttwodefiningdemographictrendsfor thenext30years.Regardingageingpopulations,theshareof olderindividualsinthetotalglobalpopulationisexpectedto increasesignificantlyinthecomingdecades.Thesetrends needtobetakenintoaccountbothfromtheperspectiveof targettouristsandlabourmarket.Forexample,thefive primarygenerationsalivetodayaretheBabyBoomers,born intheperiod1946-1964;GenerationX,borninthe period 1965-1980;Millennials,borninthe period1981-1996;and finally,GenerationZ,whichincludestheindividualsbornin theperiod1997-2012.Inthiscontext,ontheshortrun,itcanbeobservedthat5G and6Gmobilenetworkswillplayapivotalroleinaddressing thegrowingdemandforspeed,coverageandqualityof networksaswellastosupportbigdataandcloud-based solutions,fedbyagrowingnumberofdatasetsgeneratedby sensorsandIoTapplications.Bigdatasolutionsarealreadyin useinseveraldestinationstosupportdecision-makingand thiscentralityisexpectedtoincrease,alsoinlightofgrowing awarenessofthebenefitsofdatasharingandtheadoption ofcommonstandards.Destinations,ontheshortterm,will alsohavetowidentheirabilitytoprocessdatacollected throughvoluntarydatacaptureandrecommendation systems.Suchdata-generallycollectedthroughonlineforms orbeaconscommunicatingwithtourismapps-iscrucialto

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designpredictiveandbehaviouralmodelsbasedonuser profilesaswellastomakepersonalisedrecommendations.Why this EU guide Table of content Asmarttourismdestinationisdefinedasadestinationwhere differentstakeholders,eventuallyunderthecoordinationofa DestinationManagementOrganisation,facilitateaccessto tourismandhospitalityproducts,services,spaces,and experiencesthroughICT-basedinnovativesolutions,making tourismsustainableandaccessible,andfullyleveragingtheir culturalheritageandcreativity.Thisentailsaddressingand improvinglocalpopulations'qualityoflife,astheybenefit fromasustainablesocio-economicdevelopmentandare activelyinvolvedinthedigitalculturefosteredinthearea.Thisguideondatafortourismdestinationsmight thereforeresultusefulforanytypeofdestinationwilling toimprovethewaytheycollectandusedatafortourism purposesandhopefullybecomeinspirationalforthose cities,regions,orcountries,eagertostarttheirjourney towardsbecomingsmarttourismdestinations.

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