

Let's threw some 'ough numbers forgether to get an idea of the challenge lacing Santa. On Christmas Bee, he has o deliver presents to about 500 or 600 million children and the reckoning is mathe has to visit about 170 million rouses on one night. We are of course naking the assumption that there is at

ood child per house ng for time zones onable delivery ta has about 32 tall of these hous-

again when Santa n his world trip to de presents to children. A agine, this journey is a logi chnological winter

reindeer near

d, as Santa has billions o to go down, he needs to e exactly to find the s

s of chim-s to know e sack of sleigh, or nts or the

e a representative

anada, say, the data would ji him that all children wanted uwkets and spaces for Christ-a naw, which mightn't be a a now), which mightn't be a tery nice surprise present or Canadian children at

ou ever wonder how ta knows how many a dolls or Darth Vad-igures to put in his gh before setting off

He gets: Herben gets the dves to put the 'data' (eg names, ages, addresses, types of toys etc) into his huge computer. But he needs to be careful he needs to be careful which letters he uses – if he used every letter from Australia and tone from Canada, sey, the data would

single present he de-livers (which would be called a census), so he only collects a sample, by recording the data from some of the letters he orts

Santa organise

his lists?

How does

CLAIRE GORMLEY

ago presents or resents. And the 3 the sack of prese prway (which is n

to the sack

or Christmasi So he need he to use a representative sample of letters. The computational sector of the same sector of the sector of the sector order to estimate or order to estimate or the predictions many of the sector by he'll need do not year. He can do near year. He can do n

s to have enough of each gevery boy and girl, and his every hoy and girl, and his of he organised. If he doesn't want poor shudolph to pull a sleigh each s

ianta uses statis help. Statistics is cience of data: ollection, anal-

So how does San-ta collect data? San-

code and add in more data from, say, the United Na-tions Population division to find out how many boys ar girls of each age will be in e country next Christmas. H therefore needed for a source of

Cr Claire Gormley, School of Mathematics and Statistics and the Insight Centre for Data Analytics, University College Dublin left for Santa to do is to make his list and check it twice! that no one

excitement is buildi almost that time of y

AMONN

12

Santa do it?

How does

republicatione round the distinct severe distance of the state of the

to the sleigh and

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it is a second s

14 December 2015 | Irish Independent

no wonder 5. But, then,

HIGML span lith frind, new event, Thenhaw beam filted by the explicit on the explicit and the third print of the explicit of the theorem of the second secon

The sense we don't see him, some sense we don't see him, some sense we don't see him, some sense torhundrade of millos do drafter sense forhundrade of millos do drafter sense forhundrade drafter sense millos do drafter survice a drafter sense millos do entrem sound two dual no energin and the sense and the sense millos do drafter the sense mound two dual no energin the sense mound two dual no energin the sense and the sense and the sense measure the sense and the sense and the sense and the sense a traffer and the sense and the traffer and the distribution of the sense and the traffer and the distribution of the sense and the traffer and the distribution of the sense and the traffer and the distribution of the sense and the traffer and the distribution of the sense and the traffer and the distribution of the sense and the traffer and the sense and the traffer and the traffer and the sense and the traffer and the traffer and the sense and the traffer and the traffer and the traffer and the sense and the traffer and

They do very important work 24 hors a dots and they are according an operation of the second temporal according to the second temporal temporal to the second temporal tempora temporal temporal temporal tempo Of course, Santa is no risk to No nerica or the rest of the world, t least they can ensure that he is sa The tradition started 60 yee a with NODON's predecement of Every year since. NORAD staff have worked very hard on Cinstmas Eve to keep children in buch with Santa's journey around the world and they will do so again on December 24. Check out www.noradsanta.org

 KATHERINE DONNELLY
 Contents Ar Defense Command Listenschutely accident n.1955.

 anta5 journey around word on Christmas Eve is generulty rocket accessate order to units and the units of them to units and the units of the units of the bone number public of the units of the total ONAN Commander-in-Christ States and Canadi.

How do we know that

Santa Claus exists?

riportant work 24 Although his staff were very busy, in a days a week, all the director of operations Coloned graneyee narcent. Harry Shoup was more than happ y which such on for them to check the radar for indi-vey also use their a closes of santa making his way from mology to follow the North Pole.

KATHERINE

that Santa has a cer